

# PROJECT MANUAL

June 11, 2014

For The

## **POOL EQUIPMENT PACKAGES D.W. WILSON RECREATION CENTER RENOVATION AND POOL REPLACEMENT**

**Tullahoma, Tennessee**

**HFR Project No. 2013143.00**

Owner

## **CITY OF TULLAHOMA DEPARTMENT OF PARKS AND RECREATION**

**Tullahoma, Tennessee**



# HFR DESIGN

214 Centerview Drive Suite 350  
Brentwood, Tennessee 37027  
Tel (615) 370-8500  
Fax (615) 370-8530



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**POOL EQUIPMENT PACKAGES**

D.W. Wilson Recreation Center Renovation and Pool Replacement  
Tullahoma, TN  
HFR Project No. 2013143

**DOCUMENT 001116  
INVITATION TO BID**

Hart Freeland Roberts, Inc.  
214 Centerview Drive, Suite 300  
Brentwood, TN 37024-1974  
Attention: Ms. Beth Hargis

**PROJECT:**

POOL EQUIPMENT PACKAGES  
D.W. Wilson Recreation Center Renovation and Pool Replacement  
501 N. Collins Street  
Tullahoma, TN  
Issue Date: June 11, 2014

Architect's Project Number: 2013143.00

**OWNER:**

City of Tullahoma  
201 W. Grundy Street, P.O. Box 807  
Tullahoma, TN 37388  
Attn: Frances Samples, Purchasing Officer

General Contractors are invited to submit a hard copy bid to the Owner by hand or by mail located at the above address before 1:00 P.M., Monday, June 30, 2014, for the following project:

Numerous pieces of pool equipment including but not limited to perimeter circulation and filtration systems, vacuum sand filter, pumps, waterslide, floats, water features, and deck equipment.

Bid Documents for a Stipulated Price/Sum contract may be obtained from the office of the Architect/Engineer upon receipt of a deposit by check made payable to HART FREELAND ROBERTS, INC. in the amount of \$100.00 for one set and are available free in PDF format.

Documents can only be obtained by general contract and mechanical and electrical subcontract Bidders. Others may view the Bid Documents at the office of the Architect/Engineer, and the following construction associations

The FW Dodge Plan Room	FW Dodge Scan Service
REED Construction Data	Associated General Contractors
Nashville Contractors Association	Nashville Minority Business

Contact: Trey Arnold, Hart Freeland Roberts, Inc.

A Five Percent Bid Security is required.

Refer to other Bidding requirements described in Document 002113 - Instructions to Bidders.

Bidders are required to present evidence of proper licensure according to State Contractor's Licensing Law.

**END OF INVITATION TO BID**



DOCUMENT 002113  
INSTRUCTIONS TO BIDDERS

1.1 DEFINITIONS

- A. Contract Documents: Defined in AIA A201 Article 1 including issued Addenda, the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, and Specifications. Contract Documents do not include other forms of communication such as verbal conversations, telephone calls, emails, or electronically transmitted AutoCAD drawings.
- B. Bid: A complete and properly signed proposal to do the Work for the sums stipulated therein, submitted following Bidding Documents.
- C. Base Bid: The sum stated in Bid for which Bidder offers to perform Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.
- D. Prime Bidder: Person or entity, usually a General Contractor, properly licensed in the appropriate classification, who submits a Bid.
- E. Sub-bidder: Person or entity, properly licensed in the appropriate classification, usually a subcontractor or material supplier, who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

1.2 BIDDER'S REPRESENTATIONS

- A. Material Only Bid: Bidder's price includes freight, handling, and unloading at the site. Bidder complies with Owner's procurement requirements, attached to this Project Manual, Drawings, and Section 131110.
- B. Material and Labor Bid: Bidder's price includes equipment supply and delivery to project site; and placed in position for service or use, ready for intended use. Bidder complies with all provisions of this Project Manual and the Drawings.
- C. The Bidder by making a Bid represents that:
  - 1. The Bidder has carefully read and understands Bidding Documents and has found them complete and free from ambiguities and sufficient for the purpose intended; further that,
  - 2. The Bid is made following the Bidding Documents; further that,
  - 3. The Bidder has read and understands Bidding Documents to the extent that such documentation relates to the Work for which the Bid is submitted, for other portions of the Project, if any, being bid concurrently or presently under construction; further that,
  - 4. The Bidder has visited the site, become familiar with local conditions under which Work is to be done and has correlated the Bidder's personal observations with requirements of proposed Contract Documents. Contractors will not be given extra payment for conditions which can be decided by examining site and Documents; further that,
  - 5. Neither the Bidder nor any of the Bidder's employees, agents, intended suppliers or subcontractors have relied upon any verbal, telephone or fax representations, allegedly authorized or unauthorized from the Owner, or the Owner's employees or agents including architects, engineers or consultants, in assembling the bid figure; and further that,
  - 6. The bid figure is based solely upon the Bid documents and properly issued written addenda and not upon any other written representation.

### 1.3 COPIES OF BIDDING DOCUMENTS

- A. Prime Contract Bidders may obtain Bidding Documents at the office of the Architect/Engineer for deposit sum identified in Invitation to Bid. Bidding Documents will not be issued directly to Sub-bidders or others unless specifically offered in the Invitation to Bid. Deposit is fully refundable.
- B. Extra complete sets of Bidding Documents may be purchased by Bidders and Sub-Bidders, major Subcontractors and material suppliers at cost which is not refundable. The cost per set is \$ 250.00.
- C. Individual sheets of Drawings and pages of Project Manual may not be purchased.
- D. One set of Bid Documents can be obtained by general contract bidders. Mechanical, plumbing and electrical subcontractors may obtain one set of Bidding Documents from issuing office for deposit sum identified in Invitation to Bid.
- E. Request for Bidding Documents will be honored by Architect/Engineer upon receipt of deposit made payable to HART FREELAND ROBERTS, INC. addressed as follows:  
HART FREELAND ROBERTS, INC.  
ARCHITECTS/ENGINEERS/PLANNERS/INTERIORS  
214 Centerview Drive, Suite 300  
PO Box 1974  
Brentwood, TN 37024-1974  
Attention: Mr. Trey Arnold
- F. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither Owner nor Architect/Engineer assumes responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.
- G. In making copies of Bidding Documents available on above terms, Owner and Architect/Engineer do so only for purposes of obtaining Bids on the Work and do not confer a license or grant permission for any other use of Bidding Documents.

### 1.4 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- A. Carefully study and compare Bidding Documents with each other and with other work being bid concurrently or presently under construction to the extent that it relates to Work for which Bid is submitted. Report at once to Architect/Engineer errors, inconsistencies, or ambiguities discovered.

### 1.5 QUESTIONS

- A. Submit requests for clarification or interpretations of Bidding Documents to Architect/Engineer in writing or via fax transmission at least 4 calendar days before Bid opening date. Use Section 016362 or other form as approved by Architect/Engineer when requesting information from the Architect/Engineer.
- B. Replies will be issued to Bidders by Addenda and will become a part of Contract Documents. Architect/Engineer and Owner will not make oral clarifications. Interpretations, corrections, and changes of Bidding Documents made in any manner other than Addenda will not be binding, and Bidders shall not rely upon them.



1.6 PRE-BID PRODUCT SUBSTITUTIONS

- A. Where the Bid Documents stipulate a particular Product and indicate that substitutions will be considered by Architect/Engineer, send written request for approval of alternate products to Architect/Engineer in writing or via fax on Form 016232 no later than 7 days before Bid date. Requests received after that date will not be considered. Verbal and telephone requests will not be considered.
- B. Requests shall describe clearly product for which approval is requested and include complete data and samples required for Architect/Engineer's evaluation. Architect/Engineer will be sole judge of products' acceptability. Acceptable products will be identified in addenda.
- C. The burden of proof of the merit of the proposed substitution is on the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
- D. Should a proposed substitution require redesign of the Project, then the proposer agrees to pay for additional studies, investigations, submittals, redesign and analysis by the Architect/Engineer required by this substitution request.
- E. In submitting a substitution, the proposer states that the proposed Substitution will have no (zero) effect on construction Schedule. Further the proposer represents that should redesign be required by the Architect/Engineer, such reasonable time as the Architect/Engineer may require for said redesign shall not give cause for an extension of Contract Time.

1.7 ADDENDA

- A. Addenda will be available to all who are known by issuing office to have received Bidding Documents. Addenda, both by mail and fax, will be sent to the address provided when Bidding Documents were requested. Copies of Addenda will be made available for inspection whenever Bidding Documents are on file for that purpose.
- B. No Addenda will be issued later than three calendar days prior to Bid opening date except an Addendum withdrawing request for Bids or one which includes a postponement of date for receipt of Bids which can be issued no later than two calendar days prior to Bid opening date.
- C. Each Bidder shall ascertain prior to submitting a Bid that Bidder has received all Addenda issued, whether written, telephone or fax and Bidder shall acknowledge their receipt in Bid.
- D. Addenda issued after receipt of Bids will be transmitted only to Bidders from whom Bids have been received and adequate time will be allowed for response thereto.

1.8 SITE EXAMINATION

- A. Examine the site before submitting a Bid.
- B. The Bidder is required to contact the Owner in order to arrange a date and time to visit the project site.
- C. The currently occupied premises at the project site are open for examination by Bidders only during the following hours:
  - 1. Monday through Friday: 9:00 a.m. to 4:00 p.m.
  - 2. Weekends: Not available.

1.9 FORM AND STYLE OF BIDS

- A. Fill in all blank spaces on Bid Form; failure to do so will be cause for rejection. No segregated Bids or assignments will be considered. No qualifying letters or statements will be considered.
- B. Where so indicated by makeup of Bid Form, sums shall be expressed in both words and figures and in case of discrepancy between the two, the amount written in words shall govern.
- C. Make Bids on unaltered Bid Forms furnished by Architect/Engineer. Submit one copy of Bid Form. Bids shall be signed by person or persons legally authorized to bind Bidder to contract with name typed or legibly printed below signature.

1.10 SUBMISSION OF HARD COPY BIDS

- A. Submit Bid and Bid Security in a sealed opaque envelope. If any of these provisions conflict with appropriate statutes regarding bidders' disclosures in bid documents, then the statutes will take precedence. It is the Bidders' responsibility to comply with all applicable laws, rules and regulations no matter what these bid documents indicate.
  - 1. Identify envelopes with Project name, Bidder's name and address as licensed. Include information required by applicable state law, such as, but not limited to, the Prime Bidder's license number, expiration date thereof, and license classification. Include further information required by applicable state law, such as, but not limited to, sub-bidders' names, license numbers, expiration dates, and license classifications for electrical, plumbing, heating, ventilating and air conditioning, masonry work, and geo-thermal work applying to the bid. When the Prime Bidder is also doing any electrical, plumbing or HVAC work, masonry, or geo-thermal that information shall appear on the outside of the envelope.
  - 2. For Prime Bids less than \$25,000, provide the name of the Prime Bidder. If upon opening the envelope(s), the bid(s) is (are) in excess of \$25,000, then the bid(s) shall be disqualified.
  - 3. For sub-bids less than \$25,000, provide the sub-bidders' names for the electrical, plumbing, heating, ventilating and air conditioning work as appropriate applying to the bid. If upon opening the envelope(s), sub-bid(s) is (are) in excess of \$25,000, then the bid(s) shall be disqualified. If acceptance of alternate or combination of alternates changes subcontractor, so indicate.
  - 4. For sub-bids less than \$100,000, provide the sub-bidder's name for the masonry work as appropriate applying to the bid. If upon opening the envelope, sub-bid is in excess of \$100,000, then the bid shall be disqualified.
  - 5. Failure to comply with these provisions will void the Bid. Noncompliance with these provisions will result in the bid envelope's not being opened and the bid's not being considered.
- B. Enclose sealed Bids sent by mail in a separate mailing envelope. Clearly mark mailing envelopes "SEALED BID ENCLOSED" on the face thereof.
- C. To submit Bids, follow Invitation to Bid. It is the Bidder's responsibility to ensure receipt of his (or her) Bid, before time set and at place identified for receipt of Bids.
- D. Oral, telephonic, telegraphic, or email Bids are invalid and will not be considered.

1.11 REJECTION OF BIDS

- A. Owner reserves right to accept or reject any or all Bids, reject a Bid not accompanied by a required Bid Security, pool subcontractor qualifications, or by other data required by Bidding Documents, reject a Bid which is in any way incomplete, illegible, unsigned, improperly signed or sealed,

obscure, or reject a Bid which contains arithmetical errors, erasures, alterations, or irregularities of any kind.

- B. Evidence of collusion with intent to defraud or other illegal practices by Bidder may result in Bid disqualification by Owner before or after Bid opening.
- C. Bids received after scheduled opening time will be returned to Bidder unopened.

#### 1.12 BID SECURITY

- A. A Bid Bond in the amount of 5 percent of Bid is required, pledging that Bidder will enter into a Contract with Owner on terms stated in Bid and will, if required, furnish bonds covering faithful performance of the Contract and payment of obligations arising thereafter. Provide hard copy of Bid Bond with the bid.
- B. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to Owner as liquidated damages, not as a penalty.
- C. Issuing surety company shall be licensed to do business in state in which Project is located. Make Bid Bond payable to Owner. Attorney-in-fact who executes Bid Bond on behalf of surety shall attach a current hard copy of his (or her) power of attorney to Bid Bond.
- D. The Owner will have right to retain bid security of Bidders to whom an award is being considered until either (a) Contract has been executed and bonds, if required, have been furnished, or (b) specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.

#### 1.13 MODIFICATION OR WITHDRAWAL OF BID

- A. Withdrawal of a submitted Bid before scheduled opening time requires a written request signed by a person legally authorized to bind Bidder to the Contract. Withdrawn Bids may be resubmitted. Withdrawn bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.
- B. Bid modifications shall be written as add or deduct only and require signature of a person legally authorized to bind Bidder to contract.
- C. Bids shall not be withdrawn or modified after scheduled Bid opening time.
- D. Bids shall not be withdrawn or canceled for time period stated in Bid Form subsequent to Bid opening without Owner's written permission.

#### 1.14 OPENING OF BIDS

- A. Bids will be opened publicly immediately after time for receipt of Bids. An abstract of Bids will be made available to Bidders.

POOL EQUIPMENT PACKAGES  
D.W. Wilson Recreation Center Renovation and Pool Replacement  
Tullahoma, TN  
HFR Project No. 2013143

1.15 ACCEPTANCE OF BID (AWARD)

- A. Owner intends to award a Contract to lowest responsible Bidder provided Bid has been submitted following requirements of Bidding Documents and does not exceed funds available. Owner shall have right to waive informalities or irregularities in a Bid received and to negotiate contract terms with various Bidders following applicable laws in Owner's best interests.
- B. The Owner shall have right to accept Alternates in any order or combination, unless otherwise specifically provided in Bidding Documents and to decide low Bidder on basis of sum of Base Bid and Alternates accepted.

1.16 PERFORMANCE BOND AND PAYMENT BOND

- A. Furnish and pay for bonds covering faithful performance of Contract and payment of obligations arising therein. The cost of such bonds shall be included in the Bid.

1.17 TIME OF DELIVERY AND FORM OF BONDS

- A. Deliver required bonds to Owner not later than three days following date of execution of Contract. If Work is commenced prior thereto in response to a letter of intent, Bidder shall, prior to commencement of the Work, submit evidence satisfactory to Owner that such bonds will be furnished and delivered following Bidding Documents.
- B. Form of bonds shall be AIA A312, latest edition, Performance Bond and Labor and Material Payment Bond. Amount of bonds shall be 100 percent of the Contract Sum.
- C. Bonds shall be dated on or after date of Contract.
- D. Surety company shall be licensed to do business in state in which Project is located. Bonds signed by an attorney-in-fact shall have power of attorney attached.

1.18 INFORMATION REGARDING BID PACKAGES

- A. The Owner will bid portions of the Project related to this Contract as separate packages.
- B. The separate packages consist of the following:
  - a. Outdoor Pool (Refer to Section 131100):
    - i. Package 1: Gutter System, Filter System, Main Drains
    - ii. Package 2: Sanitizing Equipment
    - iii. Package 3: Deck/Miscellaneous Equipment
    - iv. Package 4: Water Feature Equipment
    - v. Package 5: Slides, Engineering Documents, and Installation Equipment
    - vi. Package 6: Water Features
    - vii. Package 7: Current Walk Equipment
    - viii. Package 8: Underwater Speaker Equipment
    - ix. Package 9: Climbing Wall Equipment
  - b. Indoor Pool (Refer to Section 131100):
    - i. Package 10: Gutter System, Main Drains

POOL EQUIPMENT PACKAGES

D.W. Wilson Recreation Center Renovation and Pool Replacement

Tullahoma, TN

HFR Project No. 2013143

- ii. Package 11: Evacuator
- iii. Package 12: Deck/Miscellaneous Equipment
- iv. Package 13: Climbing Wall Equipment
- v. Package 14: Touch Pad Timing System Equipment
- vi. Package 15: Racing Equipment

END OF INSTRUCTIONS TO BIDDERS



POOL EQUIPMENT PACKAGES  
D.W. Wilson Recreation Center Renovation and Pool Replacement  
Tullahoma, TN  
HFR Project No. 2013143

DOCUMENT 004113  
BID FORM

Submitted \_\_\_\_\_, 2014

TO:

City of Tullahoma  
Department of Parks and Recreation  
501 North Collins Street  
Tullahoma, TN 37388

PROJECT:

POOL EQUIPMENT PACKAGES  
D.W. Wilson Recreation Center Renovation and Pool Replacement  
501 N. Collins Street  
Tullahoma, TN

SUBMITTED BY:

(Full name)

\_\_\_\_\_

(Full address)

\_\_\_\_\_

\_\_\_\_\_

License Number \_\_\_\_\_ Date of License: \_\_\_\_\_

Classification: \_\_\_\_\_ Monetary Limit: \_\_\_\_\_

Gentlemen:

1. The undersigned, as Bidder, hereby declares that this Bid is made without any expressed or implied connection (financial or otherwise) with any other person or company or parties making a bid on the above named Project; and that this Bid is, in all respects, fair and in good faith without collusion or fraud.
2. The undersigned as Bidder acknowledges by his (or her) signature that he (or she) has visited and examined the site of the proposed construction and has received and examined the documents titled "Project Manual" for the Construction of the above mentioned Project, Drawings and other documents and has included their provisions in his (or her) Bid.
3. The Bidder acknowledges that he (or she) has received the following Addenda. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Bid Sum.
  - a. Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_
  - b. Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_
  - c. Addendum Number \_\_\_\_\_ Dated \_\_\_\_\_

# POOL EQUIPMENT PACKAGES

D.W. Wilson Recreation Center Renovation and Pool Replacement

Tullahoma, TN

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4. In submitting this Bid, the Bidder agrees:
  - a. To hold open his (or her) Bid for 30 days from the date shown above.
  - b. To enter into and execute a Contract, if awarded, on the basis of this Bid and to furnish the required Bonds.
  - c. To accomplish the Work according to the Contract Documents.
  - d. To provide in full and complete accordance with the shown, noted, described and reasonably intended requirements of Drawings and Specifications and the Contract Documents, to furnish all labor, materials, transportation and appliances to complete the work to the full and entire satisfaction of the Owner (with a definite understanding that no money will be allowed for extras except as set forth in the General Conditions, Special Provisions and Contract Documents), for the amounts listed below.
  - e. To begin the Work within ten (10) days after written notification of the acceptance of this Bid.
  - f. To complete the Work in 150 calendar days from the date of the notice to proceed.
5. The Bidder acknowledges by his (or her) signature that he (or she) agrees to requirements contained in the Invitation to Bid and the Instructions to Bidders and, that should he (or she) fail to execute a Contract with the Owner, should the Owner award said Contract to him, that the Owner may rightfully collect the sum of the Bid Security.
6. The required Bid Security is attached to this Bid.
7. Bidders may bid on one or more packages at their discretion.

OUTDOOR POOL			
Bid Package No.	Bid Package Name	Material only or Material and Labor	Bid Price
1	Gutter System, Filter System, Main Drains	Material and Labor	
2	Sanitizing Equipment	Material only	
3	Deck/Miscellaneous Equipment	Material only	
4	Water Feature Equipment	Material only	
5	Slides, Engineering Documents, and Installation Equipment	Material and Labor	
6	Water Features	Material only	
7	Current Walk Equipment	Material only	
8	Underwater Speaker Equipment	Material only	
9	Climbing Wall Equipment	Material only	



**POOL EQUIPMENT PACKAGES**

D.W. Wilson Recreation Center Renovation and Pool Replacement

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INDOOR POOL			
Bid Package No.	Bid Package Name	Material only or Material and Labor	Bid Price
10	Gutter System, Main Drains	Material and Labor	
11	Evacuator	Material only	
12	Deck/Miscellaneous Equipment	Material only	
13	Climbing Wall Equipment	Material only	
14	Touch Pad Timing System Equipment	Material only	
15	Racing Equipment	Material only	

**BID FORM SIGNATURE(S)**

Name of Firm: \_\_\_\_\_

Signed By: \_\_\_\_\_ Title: \_\_\_\_\_

Note: If a corporation, Bid must be signed by person authorized by the corporation by-laws to bind it to contract.

**END OF BID FORM**





# AIA<sup>®</sup> Document A101<sup>™</sup> – 2007

## **Standard Form of Agreement Between Owner and Contractor** where the basis of payment is a Stipulated Sum

**AGREEMENT** made as of the    day of    in the year  
(In words, indicate day, month and year.)

**BETWEEN** the Owner:  
(Name, legal status, address and other information)

and the Contractor:  
(Name, legal status, address and other information)

for the following Project:  
(Name, location and detailed description)

The Architect:  
(Name, legal status, address and other information)

The Owner and Contractor agree as follows.

### **ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AIA Document A201<sup>™</sup>–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.

## TABLE OF ARTICLES

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7	TERMINATION OR SUSPENSION
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10	INSURANCE AND BONDS

### ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

### ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

*(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)*

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than ( ) days from the date of commencement, or as follows:

*(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)*

## Portion of Work

## Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.

*(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)*

### ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$ ), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

*(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)*

§ 4.3 Unit prices, if any:

*(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)*

Item

Units and Limitations

Price Per Unit (\$0.00)

§ 4.4 Allowances included in the Contract Sum, if any:

*(Identify allowance and state exclusions, if any, from the allowance price.)*

Item

Price

### ARTICLE 5 PAYMENTS

#### § 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than ( ) days after the Architect receives the Application for Payment.

*(Federal, state or local laws may require payment within a certain period of time.)*

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

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§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of percent ( %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of percent ( %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and  
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:

*(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)*

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

## § 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

## ARTICLE 6 DISPUTE RESOLUTION

### § 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*

## **§ 6.2 BINDING DISPUTE RESOLUTION**

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of binding dispute resolution shall be as follows:

*(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)*

- ☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2007
- ☐ Litigation in a court of competent jurisdiction
- ☐ Other *(Specify)*

## **ARTICLE 7 TERMINATION OR SUSPENSION**

**§ 7.1** The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

**§ 7.2** The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

## **ARTICLE 8 MISCELLANEOUS PROVISIONS**

**§ 8.1** Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

**§ 8.2** Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.  
*(Insert rate of interest agreed upon, if any.)*

%

**§ 8.3** The Owner's representative:  
*(Name, address and other information)*

**§ 8.4** The Contractor's representative:  
*(Name, address and other information)*

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

## ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101–2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201–2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
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§ 9.1.4 The Specifications:

*(Either list the Specifications here or refer to an exhibit attached to this Agreement.)*

Section	Title	Date	Pages
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§ 9.1.5 The Drawings:

*(Either list the Drawings here or refer to an exhibit attached to this Agreement.)*

Number	Title	Date
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§ 9.1.6 The Addenda, if any:

Number	Date	Pages
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Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

.2 Other documents, if any, listed below:

*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201–2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents)*

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*unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)*

#### **ARTICLE 10 INSURANCE AND BONDS**

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007.

*(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007.)*

**Type of insurance or bond**

**Limit of liability or bond amount (\$0.00)**

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
**OWNER** *(Signature)*

\_\_\_\_\_  
**CONTRACTOR** *(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

\_\_\_\_\_  
*(Printed name and title)*

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# **Additions and Deletions Report for**

## **AIA<sup>®</sup> Document A101<sup>™</sup> – 2007**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 13:36:22 on 05/14/2010.

### **PAGE 1**

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## ***Certification of Document's Authenticity***

***AIA® Document D401™ – 2003***

I, \_\_\_\_\_, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 13:36:22 on 05/14/2010 under Order No. 0573766898\_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ – 2007 - Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

\_\_\_\_\_  
*(Signed)*

\_\_\_\_\_  
*(Title)*

\_\_\_\_\_  
*(Dated)*



POOL EQUIPMENT PACKAGES  
D.W. Wilson Recreation Center Renovation and Pool Replacement  
Tullahoma, TN  
HFR Project No. 2013143

DOCUMENT 006000  
BONDS AND CERTIFICATES

The Bonds for the Project shall be:

A.I.A. Document A312, 2010 Edition, Performance and Payment Bond, printed by American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C., 20006.

Application shall be decided by Architect/Engineer without further repetition in the Project Manual.

A copy will be made available upon request.

Surety shall be licensed to do business in the state in which the Project is located.

END OF BONDS AND CERTIFICATES





# AIA<sup>®</sup> Document A201<sup>™</sup> – 2007

## General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

THE OWNER:

(Name, legal status and address)

THE ARCHITECT:

(Name, legal status and address)

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### ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 BASIC DEFINITIONS**

#### **§ 1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

#### **§ 1.1.2 THE CONTRACT**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### **§ 1.1.3 THE WORK**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### **§ 1.1.4 THE PROJECT**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

#### **§ 1.1.5 THE DRAWINGS**

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

#### **§ 1.1.6 THE SPECIFICATIONS**

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### **§ 1.1.7 INSTRUMENTS OF SERVICE**

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

#### **§ 1.1.8 INITIAL DECISION MAKER**

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

### **§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS**

**§ 1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.



§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### § 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

### § 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### § 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

### § 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

## ARTICLE 2 OWNER

### § 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

### § 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

**§ 2.2.2** Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

**§ 2.2.3** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

**§ 2.2.4** The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

**§ 2.2.5** Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

### **§ 2.3 OWNER'S RIGHT TO STOP THE WORK**

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

### **§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

## **ARTICLE 3 CONTRACTOR**

### **§ 3.1 GENERAL**

**§ 3.1.1** The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

**§ 3.1.2** The Contractor shall perform the Work in accordance with the Contract Documents.

**§ 3.1.3** The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

## § 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

## § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

## § 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

### § 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

### § 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### § 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.



## § 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

## § 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

## § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

## § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

### § 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

### **§ 3.13 USE OF SITE**

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### **§ 3.14 CUTTING AND PATCHING**

**§ 3.14.1** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

**§ 3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

### **§ 3.15 CLEANING UP**

**§ 3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

**§ 3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

### **§ 3.16 ACCESS TO WORK**

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

### **§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

### **§ 3.18 INDEMNIFICATION**

**§ 3.18.1** To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

## ARTICLE 4 ARCHITECT

### § 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

### § 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### § 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.



§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

## § 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

## § 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

## § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

## **ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

### **§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS**

**§ 6.1.1** The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

**§ 6.1.2** When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

**§ 6.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

**§ 6.1.4** Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

### **§ 6.2 MUTUAL RESPONSIBILITY**

**§ 6.2.1** The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

**§ 6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

**§ 6.2.3** The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

**§ 6.2.4** The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

**§ 6.2.5** The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

### **§ 6.3 OWNER'S RIGHT TO CLEAN UP**

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

### § 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

### § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount



for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### § 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

### ARTICLE 8 TIME

#### § 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### § 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

### § 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

### § 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

### § 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

#### **§ 9.4 CERTIFICATES FOR PAYMENT**

**§ 9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

#### **§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION**

**§ 9.5.1** The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

**§ 9.5.2** When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

**§ 9.5.3** If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

#### **§ 9.6 PROGRESS PAYMENTS**

**§ 9.6.1** After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

## § 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

## § 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.



**§ 9.8.4** When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

## **§ 9.9 PARTIAL OCCUPANCY OR USE**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**§ 9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**§ 9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

## **§ 9.10 FINAL COMPLETION AND FINAL PAYMENT**

**§ 9.10.1** Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**§ 9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

### § 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

#### § 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

#### § 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

## § 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

### § 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.



### § 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

### § 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

### § 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

**§ 11.3.6** Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

#### **§ 11.3.7 WAIVERS OF SUBROGATION**

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

**§ 11.3.8** A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

**§ 11.3.9** If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

**§ 11.3.10** The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

#### **§ 11.4 PERFORMANCE BOND AND PAYMENT BOND**

**§ 11.4.1** The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

**§ 11.4.2** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

## **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

### **§ 12.1 UNCOVERING OF WORK**

**§ 12.1.1** If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

### **§ 12.2 CORRECTION OF WORK**

#### **§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

#### **§ 12.2.2 AFTER SUBSTANTIAL COMPLETION**

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

**§ 12.2.2.2** The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

**§ 12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

**§ 12.2.3** The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

**§ 12.2.4** The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

**§ 12.2.5** Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

### § 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

### § 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

### § 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

### § 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

### § 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by



such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

**§ 13.5.4** Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

**§ 13.5.5** If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

**§ 13.5.6** Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

### **§ 13.6 INTEREST**

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

### **§ 13.7 TIME LIMITS ON CLAIMS**

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 TERMINATION BY THE CONTRACTOR**

**§ 14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

**§ 14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

**§ 14.1.3** If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

**§ 14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

## § 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

## § 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

## § 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 CLAIMS

#### § 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

#### § 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

#### § 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

#### § 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

#### § 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

#### § 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

### § 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

### § 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

## § 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

## § 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.



# **Additions and Deletions Report for**

## **AIA<sup>®</sup> Document A201<sup>™</sup> – 2007**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 12:56:55 on 09/15/2009.

### **PAGE 1**

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## ***Certification of Document's Authenticity***

***AIA® Document D401™ – 2003***

I, \_\_\_\_\_, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 12:56:55 on 09/15/2009 under Order No. 1000392825\_5 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2007 - General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

\_\_\_\_\_  
*(Signed)*

\_\_\_\_\_  
*(Title)*

\_\_\_\_\_  
*(Dated)*





DOCUMENT 007300  
SUPPLEMENTARY CONDITIONS

The following supplements modify the "General Conditions of the Contract for Construction," AIA Document A201, 2007 Edition. Where a portion of the General Conditions is modified or deleted by these Supplementary Conditions, unaltered portions of General Conditions will remain in effect. The paragraph numbering system of AIA Document A201, 2007 Edition is continued in the Supplementary Conditions.

ARTICLE 1 - GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.6 THE SPECIFICATIONS: To Subparagraph 1.1.6 add the following:

"1.1.6.1 Sections of Division 1 - General Requirements, govern the execution of all sections of the specifications.

1.1.6.2 Furnish, Install and Provide: *Furnish* means to supply and deliver to project site, ready for installation. *Install* means to place in position for service or use. *Provide* means furnish and install, complete and ready for intended use.

1.1.6.3 'Indicated': Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including 'shown,' 'noted,' 'scheduled,' and 'specified' have the same meaning as 'indicated.'"

Add the following:

"1.1.9 PUNCH LIST

A punch list is a written list of items that are minor, uncompleted, or unacceptable items of the Work that do not interfere with the Owner's use and occupancy of any part of the Project."

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following:

"1.2.1.1 In the event of conflicting provisions among the Contract Documents that were not called to the Owner's or Architect's attention prior to award of Contract, the Architect/Engineer shall decide which of the conflicting requirements shall govern, generally taking as a guideline the more stringent requirement, the more expensive material, or the greater quantity of Work, unless, in the opinion of the Architect, another requirement is more appropriate. The Architect's decision shall be final in such case, and the Architect's decision shall not be further reviewable by arbitration or by litigation."

Paragraph 1.2.2: Add the following, "Language in the Specifications or notations on the Drawings indicating that certain portions of the Work shall be performed by a particular trade (verbiage such as 'by pool contractor,' 'by electrical contractor,' 'by mechanical contractor,' 'by general contractor,' and similar phrases), shall not impede the Contractor's control over assignment of trades performing the Work, in dividing the Work among Subcontractors, or in establishing the extent of Work to be performed by any trade. These notations, language, and indications in the Documents shall not diminish the Contractor's sole responsibility to direct the Work, using the Contractor's best skill and attention."

ARTICLE 2 - OWNER

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.3 Add the following to 2.2.3:

"The Contractor shall, within 21 days of receipt of any information furnished by the Owner pursuant to this paragraph, verify and confirm the accuracy of information so furnished. In case of any inaccuracies, the Contractor shall promptly notify the Owner, who shall correct any such inaccuracy. Failure to notify the Owner within the 21 days shall act to bar any claims by the Contractor arising from the inaccuracy of any such information."

2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 Delete "repeatedly."

Add the following:

"2.5 OWNER'S RIGHT TO AUDIT

2.5.1 The Contractor shall keep full and accurate records of all costs incurred and items billed concerning the performance of the Work, which records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until three years after Final Payment. In addition, the Contractor shall make it a condition of all subcontracts relating to the Work that all Subcontractors will keep accurate records of costs incurred and items billed concerning their work. In addition, the Contractor shall require that such records shall be open to audit by the Owner or its authorized representatives during performance of the Work and until two years after its completion."

ARTICLE 3 - CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Replace 3.2.1 with the following:

"3.2.1 Execution of the Contract by the Contractor is a representation that it has carefully examined the Contract Documents and the site and represents that it is thoroughly familiar with the nature and location of the Work, the site, the specific conditions under which the Work is to be done and all matters that may affect the Work or its performance. Because of such examinations and investigations, the Contractor further represents that it thoroughly understands the Contract Documents and their intent and purpose. The Contractor further represents that it is familiar with all applicable codes, ordinances, laws, regulations and rules as they apply to the Work. The Contractor further represents that it will abide by the same. Claims for additional time or additional compensation because of the Contractor's failure to follow the procedure and to familiarize itself with all local conditions and the Contract Documents will not be permitted."

3.2.2 Add the following to 3.2.2

"The accuracy of grades, elevations, dimensions or locations of existing conditions is not guaranteed by the Architect/Engineer or the Owner and the Contractor is responsible for verifying same."

Add the following:

"3.2.5 Should any words or numbers that are necessary to a clear understanding of the Work be illegible or omitted, or should an error or discrepancy occur in any of the Contract Documents, the Contractor shall immediately notify the Architect/Engineer of such omission, error or discrepancy, and the Contractor shall not continue with that portion of the Work until clarification is received. Use form as approved by Architect/Engineer when requesting information from the Architect. If the Contractor continues without so

## POOL EQUIPMENT PACKAGES

D.W. Wilson Recreation Center Renovation and Pool Replacement  
Tullahoma, TN  
HFR Project No. 2013143

notifying the Architect, the Contractor shall be responsible for the cost of correcting same, including any resulting damage.

3.2.6 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect/Engineer for the Architect/Engineer to evaluate and respond to the Contractor's requests for information, where such information was available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation."

### 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

"3.3.2 Add the following at the end of the paragraph, "and for any damages, losses, costs and expenses, such as, reasonable attorneys' fees, resulting from such acts and omissions."

### 3.4 LABOR AND MATERIALS

Add the following Subparagraphs 3.4.4 and 3.4.5 to 3.4:

"3.4.4 After the Contract has been executed, the Owner and the Architect/Engineer will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications).

3.4.5 By making requests for substitutions based on Subparagraph 3.4.2 above, the Contractor:

.1 represents that the Contractor has personally investigated the proposed substitute product and decided that it is equal or superior in all respects to that specified;

.2 represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;

.3 certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect/Engineer's redesign costs and waives all claims for additional costs related to the substitution that subsequently become apparent;

.4 will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects; and

.5 represents that the Contractor will reimburse the Owner for expenses incurred by the Architect/Engineer in providing services concerning evaluating substitutions proposed by the Contractor and making subsequent revisions to Drawings, Specifications and other documentation resulting therefrom."

### 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

Subparagraph 3.7.1, add the following:

"3.7.1.1 In addition to the requirements of 3.7.1 Contractor shall secure and pay for building, mechanical, electrical and plumbing permits, zoning regulation fees and permits and engineering and inspection charges required by any governmental authority or other person or entity having jurisdiction over the work. Said permits shall include, without limitation, both temporary and permanent permits, building permits, certificates of occupancy, curb-breaking permits, highway entrance permits, water permits and all similar permits and certificates. Include health and environmental impact fees because of water and sewer connections (including capacity fees, tap fees, impact fees, and all other similar fees)."

To Subparagraph 3.7.2 add the following:

"3.7.2.1 If the Contractor fails to give such notices, it shall be liable for and shall indemnify and hold harmless the Owner and the Architect/Engineer and their respective employees, officers and agents, against any resulting fines, penalties, judgments or damages, including reasonable attorneys' fees, imposed on or incurred by the parties indemnified hereunder."

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3.7.3 Add, "If a delay or denial in securing a local permit occurs, the Contractor shall continue the Work, inform the Designer and the Owner of the situation, propose corrective measures, and continue to pursue the customary permits."

To Subparagraph 3.7.4 add the following:

"3.7.4.1 Information shown on the Drawings as to the location of existing utilities has been prepared from the most reliable data available to the Architect/Engineer. The Owner and the Architect/Engineer do not guarantee this information, and it shall be the Contractor's responsibility to decide the location, character and depth of existing utilities. The Contractor shall assist the utilities companies, by every means possible to decide said locations and the locations of recent additions to the system not shown."

## 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

At the end of Subparagraph 3.10.1 add the following:

"The Owner's or Architect's silence as to a submitted schedule that exceeds time limits current under the Contract Documents shall not relieve the Contractor of his (or her) obligation to meet those time limits. The Owner's or Architect's silence shall not make the Owner or Architect/Engineer liable for any Contractor damages incurred because of increased construction time or not meeting those time limits. Similarly, the Owner's or Architect's silence as to a Contractor's schedule showing performance ahead of such time limits shall not create or infer any rights in favor of the Contractor for performance ahead of such time limits."

3.10.3 Add, "If commissioning activities are included in the Work, they shall not be a cause for delay or cost claims."

## 3.11 DOCUMENTS AND SAMPLES AT THE SITE

3.11 Add the following at the end of 3.11: "... before Substantial Completion."

## 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

Add the following:

"3.12.11 The Contractor shall not submit any shop drawing that is merely a tracing or other copy of any of the Contract Documents. Each shop drawing shall be prepared by the Contractor, or a subcontractor or supplier of the Contractor. The Architect/Engineer shall have the authority to reject any shop drawing that violates this provision, and no extension of the Contract Time or increase in the Contract Sum will be given because of such rejection."

Add the following to Article 3:

## "3.19 CONTRACTOR'S QUALIFICATIONS

3.19.1 The Contractor represents and warrants the following to the Owner (besides any other representation and warranty given by the Contractor to the Owner) as an inducement to the Owner to enter into the Owner-Contractor Agreement, which representations and warranties shall survive the execution of the Contract Documents and final completion of the Work and final payment therefor:

3.19.1.1 The Contractor is financially solvent, able to pay its debts as they mature and possessed of sufficient working capital to complete the Work and perform its obligations under the Contract Documents in an efficient and component manner;

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3.19.1.2 The Contractor can furnish the tools, materials, supplies, equipment and labor required to complete the Work and perform its obligations under the Contract Documents and has sufficient experience and competence to do so;

3.19.1.3 The Contractor is authorized to do business in the state where the Project is located and is properly licensed by all necessary governmental, public and other authorities having jurisdiction over the Project.

3.19.1.4 The person(s) executing the Owner-Contractor Agreement is properly authorized to do so;

3.19.1.5 The Contractor has visited the site and has become familiar with the Contract Documents and the conditions at the site; has correlated the Contract Documents with the site conditions and with all applicable codes, ordinances, regulations, laws and decrees; and knows of no reason that the Work cannot be done exactly as indicated on the Contract Documents, unless previously stated otherwise in writing to the Owner and the Architect/Engineer."

## ARTICLE 4 - ARCHITECT

### 4.1 GENERAL

Omit paragraph 4.1.1 and in its place add the following paragraphs 4.1.1 and 4.1.1.1:

"4.1.1 The Architect/Engineer is the person lawfully licensed to practice architecture or engineering, or an entity lawfully practicing architecture or engineering identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine (or feminine) in gender. The term "Architect/Engineer" (A/E) means the Architect/Engineer or his (or her) authorized representative.

4.1.1.1 It is the intent to change the word 'Architect' to 'Architect/Engineer' throughout these documents."

### 4.2 ADMINISTRATION OF THE CONTRACT

Add the following:

"4.2.2.1 The Architect/Engineer shall not have the authority or responsibility to supervise or direct the Work."

## ARTICLE 5 - SUBCONTRACTORS

### 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

To Subparagraph 5.2.1, add the following Clauses 5.2.1.1 and 5.2.1.2:

"5.2.1.1 Within 10 days after execution of Owner-Contractor Agreement, the Contractor shall submit to the Architect/Engineer the names of persons or entities proposed as suppliers, vendors and manufacturers for products required for the Project and the names of the installing Subcontractor or Sub-subcontractor. Include an accurate itemized labor and material cost schedule showing all subcontractors' names, addresses, phone numbers, nature of work, and subcontract costs. Unless the Architect/Engineer or Owner objects to any one or more subcontractors or material suppliers within seven (7) days after receipt of such list, it shall be deemed accepted.

5.2.1.2 Persons or entities proposed by Contractor and to whom Owner and Architect/Engineer have made no reasonable objection shall be used on Work for which they were proposed and shall not be changed except with written consent of Owner and Architect/Engineer."

Add the following to Article 5:

#### "5.5 OWNER PAYMENTS TO SUBCONTRACTORS

5.5.1 In case of any default hereunder by the Contractor, or in the event the Owner or the Architect/Engineer fails to approve any Application for Payment that is not the fault of a Subcontractor, the Owner may make direct payment to the Subcontractor, less appropriate retainage. In that event, the amount so paid the Subcontractor shall be deducted from the payments to the Contractor.

5.5.2 Nothing contained herein shall create any obligation on behalf of the Owner to make any payments to any Subcontractor and no payment by the Owner to any Subcontractor shall create any obligation to make any further payments to any subcontractor."

#### ARTICLE 7 - CHANGES IN THE WORK

##### 7.1 GENERAL

Add the following Subparagraph 7.1.4 to 7.1:

"7.1.4 The combined overhead and profit included in the total cost to the Owner of a change in the Work shall be based on the following schedule:

- .1 For the Contractor, for Work done by the Contractor's own forces, 15 percent of the cost.
- .2 For the Contractor, for Work done by the Contractor's Subcontractor, 5 percent of the amount due the Subcontractor.
- .3 For each Subcontractor or Sub-subcontractor involved, for Work done by that Subcontractor's or Sub-subcontractor's own forces, 15 percent of the cost.
- .4 For each Subcontractor, for Work done by the Subcontractor's Sub-subcontractors, 5 percent of the amount due the Sub-subcontractor.
- .5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.7.
- .6 When both additions and credits are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase, if any.
- .7 In order to simplify checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. Never will a change involving more than \$500.00 be approved without such itemization."

##### 7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.7 Make the following changes:

- .1 Change to read, "Payroll Expense of labor."
- .5 Change to read, "Additional Direct Payroll Expense of superintendence directly attributable to authorized overtime;"

Add the following:

"6 reasonable Direct Payroll Expense of project manager and clerical work directly attributable to estimating and coordinating the change, and.

.7 The following items shall be considered as costs when Contract Time is extended due to additional work or a cause defined in Section 8.3 under "Limited Damages for Delay," and solely to the extent directly attributable to extension of time: field offices, sheds, phones, sanitary facilities, on-site utilities, drinking

fountains, cleaning, safety programs, and other construction facilities and temporary controls not specifically required for additional work; costs of superintendence; superintendent's vehicle and other general use vehicles, such as passenger vehicles and motorcycles, and excluding larger and more complex vehicles or combination of vehicles weighing more than 26,000 pounds, carrying hazardous materials, or transporting over 15 people including the driver."

## ARTICLE 8 – TIME

### 8.2 PROGRESS AND COMPLETION

8.2.2 In the first sentence, delete "knowingly."

### 8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1: Add the word "wrongful" before the word "act" in the first sentence and substitute "litigation" for "mediation and arbitration".

Add the following:

"8.3.1.1 Limited Damages for Delay: If an extension of time is granted to the Contractor under terms of this Contract on account of an act or failure to act that is contrary to the Contract Documents on the part of Owner or Architect/Engineer or an employee of either, or of a separate Contractor employed by Owner, then the Contractor may request reimbursement for costs defined in Section 7.3.6, plus the overhead and profit allowed in Section 7.1.4, notwithstanding any other provision contained in the Agreement.

8.3.1.2 No Damages for Delay: If an extension of time is granted to the Contractor under terms of this Contract on account of abnormal weather, acts of God, riots, civil commotion, acts of War, fire, unavoidable casualties, epidemics, quarantine restrictions, labor disputes, unusual delay in transportation, freight embargoes, or insolvency of subcontractors, sub-subcontractors, or suppliers, then the Contractor shall absorb all costs for General Conditions and General Requirements during the time extension, notwithstanding any other provision contained in the Agreement.

8.3.4 The Contractor shall have no claim for damages against the Owner by reason of delay if the date of Substantial Completion of the Work is within the agreed to Contract Time."

## ARTICLE 9 - PAYMENTS AND COMPLETION

### 9.3 APPLICATIONS FOR PAYMENTS

9.3.1 Add the following sentence to Subparagraph 9.3.1:

"The form of Application for Payment shall be a notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet."

Add the following Clause 9.3.1.3 to 9.3.1:

"9.3.1.3 Until Substantial Completion, the Owner shall pay 95 percent of the amount due the Contractor because of progress payments. Owner shall pay Contractor retainage within 90 days of Substantial Completion. Contractor shall pay subcontractors their share of retainage within 10 days of Contractor's receipt of retainage from Owner. Similar provisions apply to sub-subcontractors and material suppliers."

### 9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following Subparagraph to 9.5.1:

“.8 rejection of the Work or any of the Work by any governmental authority having jurisdiction over the Project, or by the Owner's lender.”

Add the following Subparagraph to 9.5:

“9.5.4 In the event the Contractor shall cause the Architect/Engineer to perform Additional Services and incur expenses concerning Change Orders, interpretations of the Contract Documents, defects or deficiencies in the Work, the Owner will withhold such compensation and expense from the next Payment due the Contractor and pay such amount to the Architect. The Contract Amount shall be reduced by such amount.”

Add the following:

#### “9.6 PROGRESS PAYMENTS

Add the following Subparagraphs 9.6.8 through 9.6.12 to 9.6:

9.6.8 Upon commencement of the Work, an escrow account shall be established in a financial institution chosen by the Contractor and approved by the Owner. The escrow agreement shall provide that the financial institution will act as escrow agent, will pay interest on funds deposited in such account in accordance with the provisions of the escrow agreement and will disburse funds from the account upon the direction of the Owner as set forth below. Compensation to the escrow agent for establishing and maintaining the escrow account shall be paid from interest accrued in the escrow account.

9.6.9 As each progress payment is made, the retainage with respect to that payment shall be deposited by the Owner in the escrow account.

9.6.10 The interest earned on funds in the account shall accrue for the benefit of the Contractor until the completion date named in the Construction Contract or the expiration of any authorized extension of such date. Interest earned after such date shall accrue for the benefit of the Owner. Cost of compensation to the escrow agent paid out of interest earned shall be borne by the Contractor.

9.6.11 When the Contractor has fulfilled all of the requirements of the Contract providing for reduction of retained funds, the escrow agent shall release to the Contractor one-half of the accrued funds but none of the interest thereon. When the Work has been fully completed in a satisfactory manner and the Architect/Engineer has issued a final Certificate for Payment, the escrow agent shall pay to the Contractor the full amount of funds remaining in the account, including net balance of the interest paid to the account, but less any interest that may have accrued for the benefit of the Owner, which shall be paid to the Owner.

9.6.12 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor, the escrow agent shall make payment to the Contractor as provided in Subparagraph 9.10.3.”

#### 9.7 FAILURE OF PAYMENT

9.7 Modify paragraph 9.7 by changing from "seven" to "ten" each time “seven” appears.

#### 9.8 SUBSTANTIAL COMPLETION

Add the following to 9.8.3:

“The Architect/Engineer will make only two (2) such inspections to decide Substantial Completion. If as a result of these inspections the Architect/Engineer determines that the Work is not substantially complete, either because of major items not completed or an excessive number of punch list items, successive



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inspections requested by the Contractor will be charged to the Contractor at a rate of \$1,000.00 per person per half day. The Owner will withhold such compensation and expense from the next Payment due the Contractor and pay such amount to the Architect/Engineer. The Contract Amount shall be reduced by such amount."

### 9.10 FINAL COMPLETION AND FINAL PAYMENT

#### 9.10.1 Add the following to 9.10.1:

"The Architect/Engineer will make only two (2) such inspections to decide Final Completion. If as a result of these inspections the Architect/Engineer determines that the Work is not finally complete, successive inspections requested by the Contractor shall be charged to the Contractor at a rate of \$2,000.00 per person per day. The Owner will withhold such compensation and expense from the next Payment due the Contractor and pay such amount to the Architect/Engineer. The Contract Amount shall be reduced by such amount."

Add the following:

"9.10.6 Besides any other damages, failure of the Contractor to achieve final completion within thirty (30) days after the specified date of Substantial Completion, subject to authorized extensions, will result in the Contractor's being responsible for excess Architect's fees. Excess Architect's Fees include the cost of all necessary Architect's services, as decided by the Owner and Architect, incurred beyond the date of Substantial Completion. Excess Architect's fees will be deducted from the amount due the Contractor."

## ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following:

"10.1.1 Contractor shall comply with requirements of Interim Life Safety Measures (ILSM) temporarily to compensate for hazards posed by existing Life Safety Code deficiencies and construction activities.

.1 Ensure exits provide free and unobstructed egress. Train personnel if alternative exits are designated.

.2 Ensure free and unobstructed access for emergency services.

.3 Ensure fire alarm, detection and suppression systems are not impaired. Provide temporary, but equivalent systems when fire alarm systems are impaired. Inspect and test temporary systems monthly.

.4 Ensure temporary construction partitions are smoke tight and built of noncombustible materials.

.5 Provide additional fire fighting equipment and train personnel to use the equipment.

.6 Prohibit smoking in or next to construction areas.

.7 Develop and enforce storage, housekeeping and debris removal policies and procedures that reduce flammable and combustible fire load to lowest level necessary for daily operations.

.8 Perform hazard surveillance of buildings, grounds and equipment with special attention to excavations."

### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following:

“10.2.4.1 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary, the Contractor shall give the Owner reasonable advance notice.”

“10.2.9 A decision by the Owner to supplement or duplicate the security measures otherwise required to be done or provided by the General Contractor according to these Contract documents shall not in any way relieve the General Contractor of its responsibility to safeguard and secure all Work and the Work Area or impose any liability or responsibility on the Owner for damages or loss because of trespass or theft.”

## ARTICLE 11 - INSURANCE AND BONDS

### 11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1.1 Delete the semicolon at the end of Clause 11.1.1.1 and add, “including private entities performing Work at the site and exempt from the coverage because of number of employees or occupation, which entities shall maintain voluntary compensation coverage at the same limits specified for mandatory coverage for the duration of the Project;”

11.1.1.2 Delete the semicolon at the end of Clause 11.1.1.2 and add, “or persons or entities excluded by statute from the requirements of Clause 11.1.1.1 but required by the Contract Documents to provide the insurance required by that Clause;”

Add the following:

“11.1.1.9 Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises Operations (including X, C and U coverages as applicable).
2. Independent Contractors' Protective.
3. Products and Completed Operations.
4. Personal Injury Liability with Employment Exclusion deleted.
5. Contractual, including specified provision for Contractor's obligation under Paragraph 3.18.
6. Owned, non-owned and hired motor vehicles.
7. Broad Form Property Damage including Completed Operations.

11.1.1.10 If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment, certified following Subparagraph 9.10.2.”

Add the following Clause 11.1.2.1 to 11.1.2:

“11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law:

1. Workers' Compensation:
  - (a) State: Statutory
  - (b) Applicable Federal (e.g., Longshoremen's): Statutory
  - (c) Employer's Liability:

\$1,000,000.00 per Accident

\$1,000,000.00 Disease, Policy Limit

\$1,000,000.00 Disease, Each Employee

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2. Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage; and eliminate the exclusion with respect to property under the care, custody and control of the Contractor):
  - (a) Bodily Injury: ..... \$1,000,000.00 Each Occurrence
  - (b) Property Damage: ..... \$1,000,000.00 Each Occurrence
  - (c) Products and Completed Operations to be maintained for 2 years after final payment:  
\$1,000,000.00 Aggregate
  - (d) General Aggregate ..... \$2,000,000.00 Aggregate
  - (e) Personal and advertising Injury (per person/organization) ..... \$1,000,000.00 Aggregate
  - (f) Property Damage Liability Insurance shall provide X, C and U coverage.
  - (g) Broad Form Property Damage Coverage shall include Completed Operations.
3. Contractual Liability:
  - (a) Bodily Injury:  
\$1,000,000.00 Each Occurrence  
\$2,000,000.00 Aggregate
  - (b) Property Damage:  
\$1,000,000.00 Each Occurrence  
\$2,000,000.00 Aggregate
4. Personal Injury, with Employment Exclusion deleted:  
\$2,000,000.00 Aggregate
5. Business Auto Liability (including owned, non-owned and hired vehicles):
  - (a) Bodily Injury:  
\$500,000.00 Each Person  
\$1,000,000.00 Each Occurrence
  - (b) Property Damage:  
..... \$500,000.00 Each Person  
\$1,000,000.00 Each Occurrence
  - (c) Combined Single Limit:  
..... \$2,000,000.00 Each Occurrence
6. If the General Liability coverages are provided by a Commercial Liability policy, the:
  - (a) General Aggregate shall be not less than \$2,000,000.00 and it shall apply, in total, to this Project only.
  - (b) Fire Damage Limit shall be not less than \$50,000.00 on any one Fire.
  - (c) Medical Expense Limit shall be not less than \$5,000.00 on any one person.
7. Umbrella Excess Liability:  
\$1,000,000.00 over primary insurance  
\$10,000.00 retention for self-insured hazards each occurrence"

### 11.1.3 Add the following to Subparagraph 11.1.3:

"If this insurance is written on the Comprehensive General Liability policy form, the Certificates shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, ACORD form 25S will be acceptable."

## 11.3 PROPERTY INSURANCE

11.3.1 Delete, "Unless otherwise provided, the" in the first sentence. In second sentence, delete, "without optional deductibles."

11.3.1.1 Add the following sentence, "The form of policy for this coverage shall be Completed Value." Add, "Such insurance carried by Owner will include a \$10,000 deductible clause. The deductible is the responsibility of the Contractor."

#### 11.4 PERFORMANCE BOND AND PAYMENT BOND

Delete Subparagraph 11.4.1 and substitute the following:

"11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising by that. Bonds may be obtained through the Contractor's usual source and the cost of it shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum.

11.4.1.1 The Contractor shall deliver the required bonds to the Owner by three days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, before the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

11.4.1.2 The Contractor shall require the attorney-in-fact who executes the required bonds for the surety to affix thereto a certified and current copy of the power of attorney."

#### ARTICLE 13 - MISCELLANEOUS PROVISIONS

Add the following Paragraph 13.8 to Article 13:

##### "13.8 EQUAL OPPORTUNITY

13.8.1 The Contractor shall maintain policies of employment as follows:

13.8.1.1 The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

13.8.1.2 The Contractor and the Contractor's Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin."

Add the following:

##### "13.9 CONTRACTOR'S RESPONSIBILITY FOR ADDITIONAL ARCHITECTURAL FEES

13.9.1 If more than two submittals are required for any shop drawing or other submittal, the Contractor shall be liable for any Architect/Engineer's fees incurred because of such submittals. The Architect/Engineer's review of additional submittals will be made only with the consent of the Owner after notification by the Architect/Engineer. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect/Engineer for evaluation of such additional submittals.

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13.9.2 If the Work is not complete after submittal of the Contractor's written notice pursuant to Paragraph 9.10.1, the Contractor shall be liable for any Architect/Engineer's fees incurred for any inspection following the initial inspection after receipt of such notice.

13.9.3 If the Contractor defaults and causes the Architect/Engineer to provide additional services, the Contractor shall be responsible for same.

13.9.4 If the Contractor submits an extensive number of claims and the majority of such claims are rejected, the Contractor shall be responsible for any additional Architect/Engineer's fees and for any such rejected claims.

13.9.5 Any funds due under this paragraph shall be deducted by the Owner from the amounts due the Contractor for such additional Architect/Engineer's fees and paid directly to the Architect/Engineer."

Add the following:

### "13.10 TENNESSEE SEX OFFENDER LAW

13.10.1 By entering into this Contract, the Contractor attests that the Contractor and all subcontractors, sub-subcontractors, suppliers, vendors, and anyone else under the Contractor's employ or control are aware of their obligation under T.C.A. § 49-5-413(d) to conduct criminal background checks through the Tennessee Bureau of Investigation and the Federal Bureau of Investigation on all employees who may come on or about school property anytime children are present, and not to employ any person convicted of a sexual offense or registered as a sex offender in any capacity that would require him or her to come on or about school property when children are present. The Contractor further certifies that at no time will the Contractor ever permit any individual who has committed a sexual offense or who is a registered sex offender to come in direct contact with children on or about school property."

### 15.2 INITIAL DECISION

15.2.1 Substitute "litigation" for "mediation."

15.2.5 Delete the last sentence.

15.2.6 Delete the provision and the sub-provision under it.

### 15.3 MEDIATION

Delete Article 15.3 Mediation in its entirety.

### 15.4 ARBITRATION

Delete Article 15.4 Arbitration in its entirety.

### END OF SUPPLEMENTARY CONDITIONS



SECTION 011000  
SUMMARY

PART 1 GENERAL

1.1 SUMMARY

- A. Numerous pieces of pool equipment including but not limited to perimeter circulation and filtration systems, vacuum sand filter, pumps, waterslide, floats, water features, and deck equipment..
- B. Project Address: 501 N. Collins Street, Tullahoma, TN.

1.2 CONTRACT DESCRIPTION

- A. Contract Type: Stipulated Price as described in Owner-Contractor Agreement.
- B. The Contractor will be furnished free of charge a sufficient number of Drawings and Project Manuals to perform the Work.
- C. Additional sets will be furnished at the cost of reproduction, postage and handling. The cost of individual sheets of Drawings is \$3.50 per sheet. The cost of individual sheets of Project Manual is \$0.25 per sheet.

1.3 USE OF PREMISES

- A. Limit use of site and premises to allow:
  - 1. Owner occupancy.
  - 2. Work by other contractors.
  - 3. Public usage.
- B. Coordinate use of premises under direction of Owner.
- C. Assume full responsibility for protection and safekeeping of products under this Contract.
- D. Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- E. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.4 OWNER OCCUPANCY

- A. Owner will occupy site and premises during entire construction period for conduct of his (or her) normal operations.
- B. Cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.



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- C. Schedule the Work to accommodate this requirement.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 012500  
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for  
1. Product substitutions; and comparable products.

1.2 DEFINITIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or descriptions.
- B. Products Specified by Naming One or More Manufacturers with a Substitute Paragraph or the words, "or equal": Submit a request for substitution for any manufacturer not specifically named.
- C. Products Specified by Naming Several Manufacturers without a Substitute Paragraph or the words, "or equal": Products of named manufacturers meeting specifications; no options, no substitutions allowed.
- D. Products Specified by Naming Several Manufacturers with a Substitute Paragraph and the words, "None Permitted": Products of named manufacturers meeting specifications; no options, no substitutions allowed.
- E. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- F. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- G. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers. Specified manufacturers, other than Basis of Design manufacturer, shall provide custom color, profile, and pattern as required to match Basis of Design manufacturer's color and pattern.

1.3 LIMITATIONS ON SUBSTITUTIONS

- A. Only within 30 days after date of Owner-Contractor Agreement, will Architect/Engineer consider requests from Contractor for substitutions. Subsequently, substitutions may be considered only when a product becomes unavailable because of no fault of Contractor.
- B. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, when requested directly by subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.
- C. Substitute products shall not be ordered or installed without written acceptance.
- D. Only one request for substitution will be considered for each product. When substitution is not accepted, provide specified product.

- E. Architect/Engineer will decide acceptability of proposed substitution and will notify Contractor of acceptance or rejection in writing within a reasonable time.

#### 1.4 REQUESTS FOR SUBSTITUTIONS

- A. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- B. Identify product by Specifications section and Article numbers. Provide manufacturer's name and address, trade name of product and model and catalog number. List fabricators and suppliers appropriate.
- C. Attach product data as specified in Section 013300.
- D. List similar projects using product, dates of installation and names of Architect/Engineer and Owner.
- E. Give itemized comparison of proposed substitution with specified product, listing variations in quality, performance, durability, appearance and size. Reference to Specifications section and Article numbers.
- F. Give comparison between proposed substitution and specified product including differences in composition and physical and chemical properties.
- G. Give cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
- H. List availability of maintenance services and replacement materials.
- I. State effect of substitution on construction schedule and changes required in other work or products.
- J. Notify Architect/Engineer when Contractor is aware of materials, equipment, or products that meet the aesthetic and programmatic intent of Contract Documents but that are more environmentally sensitive than materials, equipment or products specified or indicated in the Contract Documents. Substitutions under this provision are not subject to the 30 day cut-off time indicated above.

#### 1.5 SUBSTITUTION SUBMITTAL PROCEDURES

- A. Submit three copies of request for substitution on form as approved by Architect/Engineer.
- B. Architect/Engineer will review Contractor's requests for substitutions with reasonable promptness.
- C. During the Bidding Period, Architect/Engineer will record acceptable substitutions in Addenda.
- D. For accepted products, submit shop drawings, product data and samples; follow Section 013000.

### PART 2 PRODUCTS

Not Used.

### PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 012600  
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Documents:
  - 1. Section 016000 - Product Requirements for administrative procedures for handling requests for substitutions made after Contract award.

1.2 MODIFICATION SUBMITTALS

- A. Submit name of the individual authorized to receive change documents and be responsible for informing others in Contractor's use or Subcontractors of changes to the Work.
- B. Change Order Forms: AIA G701 Change Order.

1.3 DOCUMENTATION OF CHANGE IN CONTRACT SUM/PRICE AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs of changes in the Work.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. On request, provide additional data to support computations:
  - 1. Quantities of products, labor and equipment.
  - 2. Taxes, insurance and bonds.
  - 3. Overhead and profit.
  - 4. Justification for any change in Contract Time. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs and for work done on a time and material basis, with additional information:
  - 1. Origin and date of claim.
  - 2. Dates and times work was done and by whom.
  - 3. Time records and wage rates paid.
  - 4. Invoices and receipts for products, equipment and subcontracts, similarly documented.

#### 1.4 CHANGE PROCEDURES

- A. The Architect/Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by AIA A201 by issuing supplemental instructions on AIA Form G710.
- B. The Architect/Engineer may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 4 days.
- C. The Contractor may propose a change by submitting a request for change to the Architect/Engineer, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions; follow Section 016000.
- D. Do not perform changes in the Work without an appropriately approved and executed Change Order or Construction Change Directive. The Owner will not pay for work performed by the Contractor or grant time extensions without an appropriately approved and executed Change Order or Construction Change Directive.

#### 1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Architect/Engineer may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. The document will describe changes in the Work and will designate method of determining any change in Contract Sum/Price or Contract Time.
- C. Promptly execute the change in Work.

#### 1.6 STIPULATED SUM CHANGE ORDER

- A. Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Architect/Engineer.

#### 1.7 UNIT PRICE CHANGE ORDER

- A. For pre-decided unit prices and quantities, the Change Order will be executed on a fixed unit price basis.
- B. For unit costs or quantities of units of work which are not pre-decided, execute Work under a Construction Change Directive.
- C. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

1.8 TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- B. Architect/Engineer will decide the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
- C. Maintain detailed records of work done on Time and Material basis.
- D. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.

1.9 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.10 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum/Price.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION





SECTION 012620  
WEATHER DELAYS

PART 1 GENERAL

1.1 EXTENSIONS OF CONTRACT TIME

- A. If the basis exists for an extension of time due to adverse weather conditions according to the General Conditions, then the following provisions shall be observed.

1.2 STANDARD BASELINE FOR AVERAGE CLIMATIC CONDITIONS - TENNESSEE

- A. Standard Baseline for Tennessee shall be regarded as the normal and anticipatable number of calendar days for each month during which construction activity shall be expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Baseline is included in the Work and is not eligible for extension of Contract Time.
- B. An extension of time because of weather may be granted only for the number of Weather Delay Days more than the number of days listed as the Standard Baseline for that month. The Owner has reviewed weather data from the National Oceanic and Atmospheric Administration and decided a Standard Baseline of average climatic range for the State of Tennessee.

STANDARD BASELINE FOR TENNESSEE					
Jan	Feb.	Mar	Apr.	May	June
12	11	8	7	7	6
July	Aug.	Sep.	Oct.	Nov.	Dec.
7	5	4	5	6	11

1.3 ADVERSE WEATHER AND WEATHER DELAY DAYS

- A. Adverse weather means the occurrence of one or more of the following conditions that prevent exterior construction activity or access to the site within twenty-four hours:
1. Precipitation (rain, snow, or ice) more than 0.10 inch liquid measure.
  2. Temperatures that do not rise above 32 degrees F by 10:00 a.m.
  3. Temperatures that do not rise above that specified, if any, for the day's construction activity by 10:00 a.m.
  4. Sustained wind (average of instantaneous speeds over a 10 minute period) more than twenty-five m.p.h.
  5. Standing snow more than one inch.
- B. Adverse weather may include, if appropriate, "dry-out" or "mud" days when all the following conditions are met:

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1. For rain days above the standard Baseline.
  2. Only if there is a hindrance to site access or site work, such as excavation, backfill and footings.
  3. At a rate of no greater than one make up day for each day or consecutive days of precipitation beyond the standard Baseline that total one inch or more, liquid measure, unless specifically approved by the Architect/Engineer. For example, one weather-related delay day would equate to one "dry-out" or "mud" day; two consecutive weather days equals one mud day, three consecutive weather days means one mud day, and so on.
- C. A Weather Delay Day may be counted if adverse weather prevents work on the project for 50 percent or more of the contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.

### 1.4 DOCUMENTATION AND SUBMITTALS

- A. Submit daily job site work logs showing which construction activities and to what extent activities have been affected by weather monthly.
- B. To support claim for time extension submit actual weather data for the months involved obtained from nearest NOAA weather station or other independently verified source approved by Architect/Engineer at beginning of Project.
- C. Use Standard Baseline data for Tennessee provided in this Section when documenting actual delays because of weather more than the average climatic range.
- D. Requests for extensions of Contract Time because of adverse weather conditions shall include U.S. Weather Bureau Climatological Reports indicating the average precipitation, temperature, and sustained wind speed, for the past ten (10) years from the nearest reporting station. The Ten-year average will be the basis for determining the number of adverse weather days and their effect on construction which Contractor would normally expect to encounter. If Owner determines that seasonal average of adverse weather days during construction is less than what would be normally expected, no Change Order shall be issued and the request for extension of Time shall be denied.
- E. Organize claim and documentation to simplify evaluation on a basis of calendar month periods, and submit following the procedures for claims established in the General Conditions.
- F. If an extension of the Contract Time is appropriate, it shall be effected following the provisions of the General Conditions, and the applicable General Requirements.

## PART 2 PRODUCTS

Not Used.

## PART 3 EXECUTION

Not Used.

## END OF SECTION

SECTION 012900  
PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Documents:
  - 1. Section 012500 - Product Requirements for administrative procedures for handling requests for substitutions made after Contract award.
  - 2. Section 012600 – Contract Modification Procedures for administrative procedures for handling changes to the Contract.
  - 3. Section 013000 – Administrative Procedures for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.2 SCHEDULE OF VALUES

- A. Submit typed schedule on AIA Form G703. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. After review by Architect/Engineer revise and resubmit as needed to respond to Architect/Engineer's review comments. Submit revised schedule with each Application for Payment, reflecting changes since previous submittal.
  - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with Continuation Sheets.
    - b. Submittals Schedule.
    - c. Contractor's Construction Schedule.
  - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format: Table of Contents of this Project Manual. Identify each line item with number and title of the major Specification sections.
- C. Include in each line item amount of Allowances specified in Section 012113. For unit cost Allowances, give quantities measured from Contract Documents multiplied by the unit cost equal to the total for the item.
- D. Identify separate line items for general conditions costs such as overhead, administrative, procedural and temporary items, mobilization, bonds, insurance, final cleaning, operation and maintenance manuals, record documents and facility start-up/commissioning.
- E. Provide a sub-schedule for each separate stage of Work.
- F. As construction progresses revise schedule to list change orders with each application for payment as separate line items. Do not include costs or time changes to the Contract without an appropriate, executed Change Order or Construction Change Directive.

- G. If the Contractor fails to submit the progress schedule within the time prescribed or the updated monthly schedule within the requested time, the Owner may withhold approval of progress payment estimates until such time as the Contractor submits the required progress schedules.

### 1.3 APPLICATION FOR PAYMENT FORMAT

- A. AIA G702 - Application and Certificate for Payment and AIA Document G703, Continuation Sheet. Computer generated versions of G702 are not acceptable. Computer generated versions of Continuation Sheet following exact format and wording of original may be acceptable if approved by Architect/Engineer in advance.

### 1.4 APPLICATION FOR PAYMENT PREPARATION

- A. Type required information. Execute certification by signature of authorized officer.
- B. Use data on accepted Schedule of Values. Provide dollar value in each column for each line item for portion of Work done and for stored products.
- C. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
- D. Prepare Application for Final Payment as specified in Section 017000.

### 1.5 PAYMENT SUBMITTAL PROCEDURES

- A. Submit six copies of each Application for Payment and updated Progress Schedule at times stipulated in Agreement.
- B. Submit under transmittal letter as specified in Section 013000.

### 1.6 SUBSTANTIATING DATA

- A. When Architect/Engineer requires substantiating information, submit data justifying line item amounts in question.
- B. Provide one copy of data with cover letter for each copy of submittal. Show Application number and date and line item by number and description.
- C. For materials stored off-site:
  - 1. Statement identifying where materials are stored, and assuring that materials are tagged to identify them for use in the project.
  - 2. Bill of sale for materials claimed.
  - 3. Certificate of insurance covering materials claimed, recognizing Owner's right to make claims.

## PART 2 PRODUCTS

Not Used

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PART 3 EXECUTION

Not Used

END OF SECTION



SECTION 013000  
ADMINISTRATIVE PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordinating construction operations on Project.
  - 1. Administrative and supervisory personnel.
- B. Documenting the progress of construction during performance of the Work.
  - 1. Contractor's Construction Schedule.
  - 2. Submittals Schedule.
- C. Paperless contracting.

1.2 SUBMITTALS

- A. Submittals Schedule: Submit electronically via pdf. Arrange the following information in a tabular format:
  - 1. Scheduled date for first submittal.
  - 2. Specification Section number and title.
  - 3. Submittal category (action or informational).
  - 4. Name of subcontractor.
  - 5. Description of the Work covered.
  - 6. Scheduled date for Architect's final release or approval.
- B. Contractor's Construction Schedule: Submit electronically via pdf, large enough to show entire schedule for entire construction period.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
- B. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
- C. Submit preliminary outline Schedules within 10 days after date of Owner-Contractor Agreement for coordination with Owner's requirements. After review, submit detailed schedules within 10 days modified to accommodate revisions recommended by Architect/Engineer.



### 3.2 CONSTRUCTION PROGRESS SCHEDULES - GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Prepare network analysis system using the critical path method, as outlined in AGC - The Use of RPA in Construction. "SureTrak" is acceptable scheduling software. Horizontal bar charts will not be permitted.
- C. Show projected percentage of completion for each item of Work as of time of each progress Application for Payment.
- D. Scale and Spacing: To provide space for notations and revisions.
- E. Sheet Size: Multiples of 8-1/2 x 11 inches.
- F. Content:
  - 1. Indicate notice to proceed (NTP) date and project start date.
  - 2. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction from NTP date, identifying work of separate stages and other logically grouped activities.
  - 3. Indicate the early and late start, early and late finish, float dates and duration.
  - 4. Include conferences and meetings in schedule.
  - 5. Indicate intermediate milestone completion dates, interface milestone dates, and Substantial Completion date.
  - 6. Show accumulated percentage of completion of each item and total percentage of Work completed, as of the first day of each month.
  - 7. Show Owner's activities, such as systems testing, start-up and commissioning.
  - 8. Coordinate content with Schedule of Values.
  - 9. Owner's Procurement Activities: Include Owner's procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  - 10. Owner-Furnished Products and Products Not in Contract: Include a separate activity for each product. Include delivery dates. Owner will provide delivery dates within 60 days of Contract Award.
- G. Submit revised schedules with each Application for Payment, identifying changes since previous version. Provide narrative report to define problem areas, anticipated delays and impact on Schedule. Report corrective action taken, or proposed and its effect.
- H. If, in the opinion of the Owner, the Contractor falls behind the approved progress schedule, the Contractor shall take any and all steps necessary to improve his progress. The Contractor may, at his discretion, increase the number of shifts, initiate or increase overtime operations, increase days of work in the work week, or increase the amount of construction plant, or all of them. The Owner may also require the Contractor to submit for review supplemental progress schedules detailing the specific operational changes to be instituted to regain the approved schedule, all without additional cost to the Owner.
- I. "As-Built" Progress Schedule: Submit an as-built construction schedule certified by the Contractor's Project Manager and Project Scheduler as representing the way the Project was actually constructed. This schedule is a condition precedent to requesting retainage release. Refer to Section 017821 – Closeout Submittals for closeout procedures.

### 3.3 COORDINATION DESCRIPTION

- A. Coordinate scheduling and work of the various sections of Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
- B. Coordinate sequence of Work to accommodate Owner occupancy.
- C. Coordinate with Owner 72 hours in advance of anticipated interruptions to utilities service.
- D. Coordinate with Owner 72 hours in advance of anticipated operations which are loud or noisy or which will generate disturbing quantities of structure born noise or vibration such as jack hammering or core drilling.
- E. Interior finishes: Schedule construction operations with consideration for indoor air quality.

### 3.4 COORDINATION OF CONTRACT CLOSEOUT

- A. Coordinate completion and cleanup of work of separate sections in preparation for Substantial Completion.
- B. After Owner occupancy of premises, coordinate access to site by various sections for correction of defective work and work not following Contract Documents, to minimize disruption of Owner's activities.
- C. Assemble and coordinate closeout submittals specified in Section 017821 – Closeout Submittals.

### 3.5 PAPERLESS CONTRACTING

- A. Architect/Engineer is committed fully to electronic commerce and paperless contracting initiatives. As such, correspondence, meeting minutes, field reports, requests for information (RFI's), requests for proposals (RFP's), architect's supplemental instructions (ASI's), cost itemizations, change orders, submittals (incoming and outgoing), digital photography, specifications, drawings, and other documents will be issued using electronic methods, i.e., electronic mail (e-mail) and project information management software by Newforma, Inc., Manchester, NH ([www.newforma.com](http://www.newforma.com), 1.603.625.6212).
- B. Contractor shall have and maintain internet capability to send and receive documents in this manner. The Contractor will not be required to purchase Newforma Software, but will be given access to HFR, Inc Newforma's Info Exchange Server which is a WEB based interface. The Contactor as external project team member, through the HFR, Inc. Info Exchange Server enables external (as well as internal) project team members to:
  - 1. Use a Web browser to view and download uploaded file transfers sent to them by other project team members.
  - 2. Upload file transfers to selected project team members using a Web browser.
  - 3. View a transmittal log containing all incoming and outgoing file transfers that they were a part of.
- C. Contractor shall participate fully in this requirement at no additional cost to the Owner.
- D. Architect/Engineer will not use Contractor's project management software.

END OF SECTION



SECTION 013119  
PROJECT MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Project meetings.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 PRECONSTRUCTION CONFERENCE

- A. Architect/Engineer will schedule conference within 5 days after notice of award.
- B. Attendance: Owner, Architect/Engineer and Contractor.
- C. Agenda:
  - 1. Distribution of Contract Documents.
  - 2. Submittal of list of subcontractors, list of products, Schedule of Values, submittals schedule and progress schedule.
  - 3. Designation of responsible personnel.
  - 4. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal requests, change orders and Contract closeout procedures.
  - 5. Scheduling.
  - 6. Use of premises by Owner and Contractor.
  - 7. Owner's requirements and occupancy.
  - 8. Survey and building layout.
  - 9. Security and housekeeping procedures.
  - 10. Procedures for testing.
  - 11. Procedures for maintaining record documents.
  - 12. Requirements for startup of equipment.
  - 13. Inspection and acceptance of equipment put into service during construction period.
  - 14. Code-required special inspections and tests.

3.2 PROGRESS MEETINGS

- A. Schedule and administer construction progress meetings, called meetings and pre-installation conferences, twice a month throughout progress of Work.
- B. Make physical arrangements for meetings, prepare agenda with copies for participants and distribute notice of meeting to participants and to Architect/Engineer, four days in advance of meetings.

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- C. Preside at meetings, record minutes and distribute copies within a reasonable amount of time to Architect/Engineer, participants and those affected by decisions made.
- D. Location of Meetings: Contractor's field office.
- E. Attendance: Job superintendent, major subcontractors and suppliers; Owner and Architect/Engineer as appropriate to agenda topics for each meeting.
- F. Minimum Agenda:
  - 1. Approval of minutes of previous meetings.
  - 2. Review of Work progress.
  - 3. Field observations, problems and decisions.
  - 4. Identification of problems which impede planned progress.
  - 5. Review of submittals schedule and status of submittals.
  - 6. Review of off-site fabrication and delivery schedules.
  - 7. Maintenance of progress schedule.
  - 8. Corrective measures to regain projected schedules.
  - 9. Planned progress during succeeding work period.
  - 10. Coordination of projected progress.
  - 11. Maintenance of quality and work standards.
  - 12. Effect of proposed changes on progress schedule and coordination.
  - 13. Other business relating to Work.

### 3.3 PRE-INSTALLATION MEETINGS

- A. When required in individual specification Section, convene pre-installation meetings at work site prior to commencing work of the Section.
- B. Attendance is required of entities directly affecting, or affected by, work of the Section.
- C. Notify Architect/Engineer four days in advance of meeting date.
- D. Prepare agenda, preside at meetings, record minutes and distribute copies within two days after meetings to participants, with two copies to Architect/Engineer.
- E. Agenda will include reviewing conditions of installation, preparation and installation procedures and coordination with related work.

### 3.4 CLOSEOUT MEETING

- A. Convene closeout meeting at work site two weeks prior to Substantial Completion to review requirements for completion of Contract and to obtain submittal of necessary final documents.
- B. Attendance is required of entities directly affecting, or affected by, work of the Section.
- C. Notify Architect/Engineer four days in advance of meeting date.
- D. Preside at meetings, record minutes and distribute copies within two days after meetings to participants, with two copies to Architect/Engineer.
- G. Minimum Agenda:

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1. Starting systems.
2. Testing, adjusting, and balancing.
3. Demonstration and training.
4. Contractor's inspection of the Work.
5. Contractor's preparation of an initial punch list.
6. Procedure to request Designer's inspection to determine date of Substantial Completion.
7. Completion time for defective work.
8. Inspections by Authorities Having Jurisdiction.
9. Certificate of use or occupancy and transfer of insurance responsibilities.
10. Partial release of retainage.
11. Final cleaning.
12. Preparation for final inspection.
13. Closeout submittals.
14. Contractor's demobilization of site.
15. Operations and Maintenance Manuals.

END OF SECTION



SECTION 013300  
SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administrative and procedural requirements for submitting shop drawings, product data, samples, and other submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect/Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Architect/Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals upon Architect's receiving an executed Electronic Data Release Form and fee, if required.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination
- C. Deliver physical submittals to Designer at address listed on cover of Project Manual. Deliver electronic copies of submittals to Designer's email address or to extranet location designated for this Project.
- D. Identify each submittal item with the following information:
  - 1. Project Name and Location,
  - 2. Architect/Engineer name, address, and job number,
  - 3. Contractor,
  - 4. Subcontractor,
  - 5. Supplier and manufacturer,
  - 6. Pertinent Drawing Sheet and Detail Number, and
  - 7. Specification Section Number.
- E. Deviations from Contract Documents, if any. Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.



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- F. Submittals which lack required identification information will be returned to Contractor with no action taken. No extensions in Contract time will be granted because of delays caused by Contractor's failure to follow procedure.
- G. Transmit each item under AIA Form G810 or Designer-accepted transmittal form.
- H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- I. Upon receipt of approval, distribute print copies of approved drawings to affected trades. All affected trades shall cooperate in preparation of composite drawings to assure proper coordination.

## PART 2 PRODUCTS

### 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
  - 1. Submit electronic submittals directly to extranet specifically established for Project.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's product specifications.
    - d. Standard color charts.
    - e. Manufacturer's catalog cuts.
    - f. Wiring diagrams showing factory-installed wiring.
    - g. Printed performance curves.
    - h. Operational range diagrams.
    - i. Mill reports.
    - j. Standard product operation and maintenance manuals.
    - k. Compliance with specified referenced standards.
    - l. Testing by recognized testing agency.
    - m. Application of testing agency labels and seals.
    - n. Notation of coordination requirements.
  - 4. Submit Product Data before or concurrent with Samples.
  - 5. Number of Copies: Submit electronic copies of Product Data, unless otherwise indicated. Architect/Engineer will return copies. Print and mark up and retain one returned copy as a Project Record Document.
  - 6. Do not submit manufacturer's specifications or installation instructions. Installation instructions and specifications will be returned to Contractor without review.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base shop drawings on reproductions of the Contract Documents or standard printed data, unless submittal of Architect/Engineer's CAD Drawings are otherwise permitted.
  - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Dimensions in US standard units such as feet and inches, pounds, and cubic feet per minute. Drawings that are submitted with metric measurements alone will be summarily rejected.

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- b. Identification of products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shopwork manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Design calculations.
    - j. Compliance with specified standards.
    - k. Notation of coordination requirements.
    - l. Notation of dimensions established by field measurement.
    - m. Relationship to adjoining construction clearly indicated.
    - n. Seal and signature of professional engineer if specified.
    - o. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings formatted electronically on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 24 by 36 inches.
  3. Number of Copies: Submit electronic copies of shop drawings, unless otherwise indicated. Architect/Engineer will return copies. Print and mark up and retain one returned copy as a Project Record Document.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of appropriate Specification Section.
  3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
  4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect/Engineer will return submittal with options selected.
  5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    - a. Number of Samples: Submit three sets of Samples. Architect/Engineer will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.
      - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

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- 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
    1. Type of product, include unique identifier for each product
    2. Number and name of room or space
    3. Location within room or space
    4. Number of Copies: Submit pdfs of product schedule or list, unless otherwise indicated. Architect/Engineer will return copies.
      - a. Mark up and retain one returned copy as a Project Record Document.
  - F. Submittals Schedule: Comply with requirements specified in Section 013000 – Administrative Procedures.
  - G. Application for Payment: Comply with requirements specified in Section 012900 - Payment Procedures.
  - H. Schedule of Values: Comply with requirements specified in Section 012900 - Payment Procedures.
  - I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
    1. Name, address, and telephone number of entity performing subcontract or supplying products.
    2. Number and title of related Specification Section(s) covered by subcontract.
    3. Drawing number and detail references, as appropriate, covered by subcontract.
    4. Number of Copies: Submit pdfs of subcontractor list, unless otherwise indicated. Architect/Engineer will return copies.
      - a. Mark up and retain one returned copy as a Project Record Document.

## 2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
  1. Number of Copies: Submit electronic copies of each submittal, unless otherwise indicated. Architect/Engineer will not return copies.
  2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  3. Test and Inspection Reports: Comply with requirements specified in Section 014000 - Quality Requirements.
- B. Contractor's Construction Schedule: Comply with requirements specified in Section 013000 – Administrative Procedures.
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification

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(WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

- E. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- F. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- G. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - 1. Name of evaluation organization
  - 2. Date of evaluation
  - 3. Time period when report is in effect
  - 4. Product and manufacturers' names
  - 5. Description of product
  - 6. Test procedures and results.
  - 7. Limitations of use
- L. Schedule of Tests and Inspections: Comply with requirements specified in Section 014000 - Quality Requirements.
- M. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- N. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- O. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

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- P. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Section 017821 - Closeout Submittals.
- Q. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- R. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
  - 1. Name, address, and telephone number of factory-authorized service representative making report.
  - 2. Statement on condition of substrates and their acceptability for installation of product
  - 3. Statement that products at Project site comply with requirements
  - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements
  - 6. Statement of whether conditions, products, and installation will affect warranty
  - 7. Other required items indicated in individual Specification Sections
- S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- T. Material Safety Data Sheets (MSDSs): Submit information directly to Owner if specifically required by Owner; do not submit to Architect/Engineer.
  - 1. Architect/Engineer will not review submittals that include MSDSs and will return the entire submittal for resubmittal.
- U. Delegated Design
  - 1. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 2. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
  - 3. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit three copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional. Contractor's design professional shall be licensed in the State in which the Project is located.
  - 4. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

## PART 3 EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect/Engineer.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

### 3.2 COORDINATION OF SUBMITTALS

- A. Schedule and coordinate specified submittals and work of the various sections of Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
- B. Coordinate work of various sections having interdependent responsibilities for installing, connecting to and placing in service, such equipment.
- C. Coordinate requests for substitutions to ensure compatibility of space, of operating elements and effect on work of other sections.
- D. In instances where submittals affect the work of more than one trade, prepare and submit composite drawings which indicate and define the work under all affected trades, and obtain Designer approval.
- E. Do not include proposed changes on shop drawings or other submittals; none will be considered approved under any circumstances. Even if a reviewed shop drawing or other submittal has deviations from the Contract Documents, a submittal is not a Change Order and will not be considered to be an approval of such change or Contract deviation.

### 3.3 NONCOMPLYING SUBMITTALS

- A. Submittals not in compliance with this Section will be returned by Architect/Engineer to Contractor for re-submittal with appropriate deficiencies noted. Time extensions will not be allowed for returned non-complying submittals.
- B. The Designer will not review more than two submittals on any one item.
- C. General: Architect/Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- D. Action Submittals: Architect/Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect/Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.

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- E. Informational Submittals: Architect/Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect/Engineer will forward each submittal to appropriate party.
- F. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- G. Submittals not required by the Contract Documents may not be reviewed and may be discarded.
- H. "By Others": Submittals which contain the words, "by others," or other words which, in the sole opinion of the Architect/Engineer, by their interpretation could be taken to mean that individual components of the Work are not in contract, will be considered as non-compliant and will be returned to the Contractor without action.
  - 1. No delays or time extensions will be granted to the Contractor for failure to comply with this provision.
  - 2. The Architect/Engineer's actions in this regard will be final and will not be subject to further review under provisions of arbitration or mediation.

END OF SECTION

SECTION 014000  
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administrative and procedural requirements for quality assurance and quality control.

1.2 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect/Engineer for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect/Engineer for a decision before proceeding.

1.3 QUALITY CONTROL, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' written instructions and recommendations, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration and racking.



#### 1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

#### 1.5 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, date for receiving bids, date of Owner-Contractor Agreement when there are no Bids, date specified in the individual specification sections, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, nor responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.
- E. When required by individual Specifications section, obtain copy of standard. Maintain copy at jobsite during submittals, planning and progress of the specific work, until Substantial Completion.
- F. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding. Use Section 016362 when requesting information from the Architect/Engineer.

#### 1.6 FIELD SAMPLES

- A. Provide field samples at Project as required by individual Specifications section. Install sample complete and finished. Acceptable finishes in place may be retained in completed Work.

#### 1.7 MOCK-UPS

- A. When required by individual Specifications section, erect complete, full-scale mockup of assembly at Project site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged. Remove mockup at completion, when approved by Architect/Engineer.

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### 1.8 TESTING AND SPECIAL INSPECTION AGENCY SERVICES

- A. Services of an independent testing agency shall be paid for by Contractor. Laboratory shall perform inspections, tests and other services required by various Specification sections. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Firm used and personnel used to perform tests shall be approved in writing by Architect/Engineer.
- C. Tests shall be done under direction of engineer registered in state in which Project is located.
- D. Reports shall be submitted to Architect/Engineer in duplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
- E. Contractor shall cooperate with Testing agency personnel. Furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
  - 1. Notify Architect/Engineer and Testing agency 48 hours prior to expected time for operations requiring testing services.
  - 2. Make arrangements with Testing agency and pay for additional samples and tests for Contractor's convenience.
- F. Inspecting may occur on or off the project site. Perform off-site inspecting as required by the Architect/Engineer or the Owner.
- G. Inspecting and testing does not relieve Contractor to perform Work to contract requirements.
- H. Testing agency shall provide a letter on its letterhead addressed to Owner and signed by a signatory to the Testing agency certifying the fact that all testing required under this Contract has been completed. Include this letter with closeout documents under Section 017821 – Closeout Submittals.

### 1.9 MANUFACTURER'S FIELD SERVICE

- A. When specified in respective Specification sections, require supplier or manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable and to make appropriate recommendations.
- B. Supplier's or manufacturer's representative(s) shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report in duplicate within 10 days of observation to Architect/Engineer for review.

## PART 2 PRODUCTS

Not Used.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate will structurally support new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify that utility services are available, of the correct characteristics, and in the correct locations.

#### 3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

SECTION 015000  
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.2 TEMPORARY ELECTRICITY

- A. Cost: By Contractor; provide and pay for power service required from utility source.
- B. Provide power outlets for construction operations, with branch wiring and distribution boxes located as needed for construction purposes. Provide flexible power cords as needed for construction purposes.
- C. Provide main service disconnect and overcurrent protection at convenient location.
- D. Permanent convenience receptacles may be utilized during construction.
- E. Do not "daisy-chain" temporary electrical wiring.

1.3 TEMPORARY WELDING

- A. Ground welding equipment as near as possible to welding electrode. Take ground wire from welding equipment, along with positive wire, to work site. Wires shall be loosely twisted. Welding ground shall be within 5'-0" or length of member being welded, whichever is less.
- B. Electric motor-generator type welding equipment is permissible. Restrict welding to within a fabricated wire cage that is grounded and used in conjunction with an inductive choke in series. Use a radio frequency interference (RFI) choke within 1.5m (4'-11").
- C. Do not "daisy-chain" welding leads. Route welding leads directly to construction enclosure where they are to be used.
- D. Connect conduit, pipes and ducts entering and leaving construction enclosure to shielding material.

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain lighting for construction operations to achieve a minimum lighting level of 2 watt/sq ft.
- B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails and lamps as needed to illuminate construction areas.

- D. Maintain lighting and provide routine repairs.
- E. Permanent building lighting may be utilized during construction.

#### 1.5 TEMPORARY HEATING

- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.
- B. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance and regular replacement of filters and worn or consumed parts.
- C. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.
- D. Do not use gas- or oil-fired temporary heating devices.

#### 1.6 TEMPORARY COOLING

- A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations.
- B. Prior to operation of permanent equipment for temporary cooling purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.
- C. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

#### 1.7 NO SMOKING POLICY

- A. Do not expose building occupants and systems to Environmental Tobacco Smoke (ETS).
- B. Do not smoke in or within 50'-0" of existing facilities or inside new facilities after building is enclosed.

#### 1.8 TELEPHONE SERVICE

- A. Provide, maintain and pay for telephone service to field office at time of project mobilization. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office. Provide electronic communication service, including electronic mail, in common-use facilities. Provide a dedicated telephone line for each facsimile machine and computer in each field office.

#### 1.9 TEMPORARY WATER SERVICE

- A. Provide, maintain and pay for service required for construction operations. Extend branch piping with outlets located so that water is available by use of hoses.
- B. Owner will pay for water necessary to fill and operate pools and water features.

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### 1.10 SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures.
- B. Existing facilities shall not be used.
- C. Materials may be new or used, adequate for purpose, which will not create unsanitary conditions.
- D. Toilet Facilities: Enclosed portable self-contained units or temporary water closets and urinals, secluded from public view. Provide separate facilities for men and women.
- E. Provide facilities at time of site mobilization.
- F. Clean areas of facilities daily, maintain in sanitary condition. Provide toilet paper, paper towels and soap in suitable dispensers.
- G. Remove temporary facilities prior to Substantial Completion.

### 1.11 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site and structures from damage.
- C. Protect plant growth and trees scheduled to remain from injuries because of construction activities resulting in damage such as mechanical injuries and chemical poisoning. Provide a fenced in protection zone posted with signs to prevent activities within zone. Replace damaged plant life.
  - 1. If drip line is less than 9'-11" from trunk of tree, then provide protection zone with a 10 feet radius around tree.
  - 2. If drip line is 10 feet or more, then provide protection zone equal to limits of critical root zone or a minimum distance of one and one-half times drip line radius, as measured from trunk of protected tree.
- D. Do not perform operations involving concrete or gypsum board such that run off from either of these will soak into existing tree root systems. Do not spill wood preservative products such as pentachlorophenol into tree root areas. Do not clean paint brushes and tools over tree roots. Keep trees free of nails, screw eyes, and other fastening devices. Use posts, not trees, for signs, electrical wires and pulleys.

### 1.12 PROTECTION OF INSTALLED WORK

- A. Provide temporary and removable protection for installed products. Control traffic in immediate area to minimize damage.
- B. Provide protective coverings at walls, projections, jambs, sills and soffits of openings. Protect finished floors and stairs from traffic, dirt, wear, damage or movement of heavy objects by protecting with durable sheet materials.
- C. Prohibit traffic and storage on waterproofed and roofed surfaces and on lawn and landscaped areas.

1.13 SECURITY

- A. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program.
- C. Protect Work and existing premises from theft, vandalism, and unauthorized entry. Initiate program in coordination with Owner's existing security system at project mobilization.
- D. Maintain program throughout construction period until Owner occupancy.
- E. Restrict entrance of persons and vehicles into Project site and existing facilities. Allow entrance only to authorized persons with proper identification.
- F. Maintain log of workers and visitors, make available to Owner on request.
- G. Contractor shall control entrance of persons and vehicles related to Owner's operations.
- H. Provide identification badge to each person authorized to enter premises. Include the following on badges: Personal photograph, name and assigned number and employer. Maintain a list of accredited persons, submit copy to Owner on request. Require return of badges at expiration of their employment on the Work.
- I. Do not allow cameras on site or photographs taken except by written approval of Owner.
- J. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.
  - 1. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

1.14 PARKING

- A. Arrange with Owner for temporary surface parking areas to accommodate construction personnel on site.
- B. When site space is not adequate, provide additional off-site parking.

1.15 PROJECT INFORMATIONAL SIGNS

- A. Painted informational signs of same colors and lettering as Project Identification sign, or standard products; size lettering to provide legibility at 100 foot distance.
- B. Provide at each field office, storage shed and directional signs to direct traffic into and within site. Relocate from one location to another as Work progress requires.
- C. Provide applicable municipal, state and other traffic agency directional traffic signs to and within site.

1.16 STORAGE AREAS AND SHEDS

- A. Storage Sheds for Tools, Materials and Equipment: Weather tight, with heat and ventilation for Products requiring controlled conditions, with adequate space for organized storage and access and lighting for inspection of stored materials.

1.17 MAINTENANCE AND CLEANING

- A. Provide and pay for daily janitorial services for offices; periodic cleaning and maintenance for office and storage areas.
- B. Maintain approach walks free of sand and mud, construction materials and vehicles.
- C. Maintain site clean and litter free with daily cleanup. Keep stored materials in neat, well organized stacks. Maintain site free of weeds.
- D. Maintain grass to maintain a reasonably neat appearance during the Project. Keep grass to a maximum height of 6 inches within construction limits.

1.18 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION





SECTION 016000  
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for
  1. Selection of products for use in Project;
  2. Product delivery, storage, and handling;
  3. Manufacturers' standard warranties on products.
  4. Special warranties.

1.2 RELATED DOCUMENTS

- A. Section 012500 - Product Options and Substitutions: Administrative and procedural requirements for product substitutions and comparable products.

1.3 DEFINITIONS

- A. Products: Means new material, machinery, components, equipment, fixtures and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
  1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
  2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
  3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification section shall be the same and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.
- E. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers. Specified manufacturers, other than Basis of Design manufacturer, shall provide custom color, profile, and pattern as required to match Basis of Design manufacturer's color and pattern.

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### 1.4 TRANSPORTATION AND HANDLING

- A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- C. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct and products are undamaged.

### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
  - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Store products with seals and labels intact and legible. Follow manufacturer's instructions. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- D. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- E. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- F. Arrange storage to provide access for inspection. Periodically inspect to ensure products are undamaged and are maintained under required conditions.
- G. After installation, provide coverings to protect products from damage from traffic and construction operations, remove when no longer needed.
- H. Moisture Stains: Materials with evidence of moisture damage, including stains, are not acceptable, including both stored and installed materials; immediately remove from site and properly dispose. Take special care to prevent accumulation of moisture on installed materials and within packaging during delivery, storage, and handling to prevent development of molds and mildew on packaging and on products.
  - 1. Immediately remove from site and properly dispose of materials showing signs of mold and signs of mildew, including materials with moisture stains.
  - 2. Replace moldy materials with new, undamaged materials.

## 1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  - 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
  - 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
  - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
  - 3. Refer to Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

## PART 2 PRODUCTS

### 2.3 PACKAGING MATERIALS (Not Applicable)

## PART 3 EXECUTION

Not Used.

END OF SECTION



SECTION 017000  
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Use of site.
- B. Field engineering.
- C. Project surveying.
- D. Facility startup.

PART 2 PRODUCTS

PART 3 EXECUTION

3.1 FACILITY STARTUP - PRELIMINARY

- A. Submit preliminary schedule listing times and dates for start-up of each item of equipment in sequence two weeks prior to proposed dates. Submit manufacturer's representative reports within one week after start-up, listing satisfactory startup dates.
- B. When specified in individual Sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment installation prior to start-up; to supervise placing equipment in operation; and to provide a written report that equipment has been properly installed and lubricated, is in accurate alignment, is free from any undue stress imposed by connecting lines or anchor bolts and has been satisfactorily operated under full load conditions. Follow Section 014000.
- C. Verify that Project conditions comply with requirements. Verify that status of Work meets requirements for starting of equipment and systems. Coordinate sequence for start-up of various items of equipment. Notify Architect/Engineer 7 days prior to start-up of each item of equipment.

3.2 FACILITY STARTUP - ON SITE

- A. Have Contract Documents, shop drawings, product data and operation and maintenance data at hand during entire start-up process. Verify that each piece of equipment has been checked for proper lubrication, drive rotation, belt tension, control sequence and other conditions which may cause damage.
- B. Verify control systems are fully operational in automatic mode. Verify that tests, meter readings and specific electrical characteristics agree with those specified by electrical equipment manufacturer. Verify wiring to motors and controls required by mechanical work for operational smoke and fire protection demonstrations is complete. Verify wiring and support systems for equipment installed under separate contracts is complete and checked.

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- C. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- D. Execute start-up under supervision of responsible manufacturer's representative. Place equipment in operation in proper sequence.

### 3.3 INSPECTION BY LOCAL GOVERNMENT AGENCIES

- A. Be responsible for notification of government agencies to make required inspections. Notify Architect/Engineer 24 hours prior to inspections.

### 3.4 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work is substantially complete, submit written notice with list of items to be completed or corrected.
- B. Should Architect/Engineer inspection find Work is not substantially complete, he (or she) will promptly notify Contractor in writing, listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second written notice of substantial completion.
- D. When Architect/Engineer finds Work is substantially complete he (or she) will prepare a Certificate of Substantial Completion following provisions of General Conditions.
- E. Complete Punch List work within 15 days after Substantial completion. Remove, within 15 days after Substantial Completion, all construction equipment and material not needed for completion of Punch List work (Final Completion). Regardless of the actual date of Final Completion, remove all trailers, scaffolding, tools, and other equipment from the Site as directed by the Architect/Engineer or Owner.

### 3.5 FINAL COMPLETION

- A. When Contractor considers Work is complete, submit written certification:
  - 1. Contract Documents have been reviewed.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed following Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected.
  - 4. Equipment and systems have been tested adjusted and balanced and are fully operational.
  - 5. Operation of systems has been demonstrated to Owner's personnel.
  - 6. Work is complete and ready for final inspection.
- B. Should Architect/Engineer's inspection find Work incomplete, he (or she) will promptly notify Contractor in writing listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second certification of final completion.
- D. When Architect/Engineer finds work is complete, he (or she) will consider closeout submittals.

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### 3.6 REINSPECTION FEES

- A. Should status of completion of Work require reinspection by Architect/Engineer because of failure of Work to comply with Contractor's claims on initial inspection, Owner will deduct the amount of Architect/Engineer compensation for reinspection services from final payment to Contractor.

### 3.7 STATEMENT OF ADJUSTMENT OF ACCOUNTS

- A. Prior to closeout submittals, submit final statement reflecting adjustments to Contract Sum indicating:
  - 1. Original Contract Sum.
  - 2. Previous change orders.
  - 3. Changes under allowances.
  - 4. Changes under unit prices.
  - 5. Deductions for uncorrected work.
  - 6. Deductions for reinspection fees.
  - 7. Other adjustments to Contract Sum.
  - 8. Total Contract Sum as adjusted.
  - 9. Previous payments.
  - 10. Sum remaining due.
- B. Architect/Engineer will issue a final Change Order reflecting approved adjustments to Contract Sum not made previously by change orders.

### 3.8 APPLICATION FOR FINAL PAYMENT

- A. Submit application for final payment; follow provisions of Conditions of the Contract. Final payment will not be made until closeout submittals have been received and approved by Architect/Engineer.

END OF SECTION





SECTION 017329  
CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cutting and patching.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.3 EXISTING WARRANTIES

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties, including but not limited to the following:
  - 1. Existing roofing and flashing

PART 2 PRODUCTS

2.1 MATERIALS FOR CUTTING AND PATCHING

- A. Primary Products: Those required for original installation. Do not incorporate salvaged or used materials in new construction except with permission of Architect/Engineer.
- B. Product Substitution: For any change in materials, submit request for substitution.
- C. New Materials: As specified in individual Product Sections. Match existing products and work for patching and extending work.
- D. Decide type and quality of existing products by inspection and any necessary testing and workmanship by use of existing as standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be done as necessary to make Work complete and consistent with existing quality.

## PART 3 EXECUTION

### 3.1 EXAMINATION FOR CUTTING AND PATCHING

- A. Inspect existing conditions, prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing Work, inspect conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.
- C. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect/Engineer's opinion, reduce the building's aesthetic qualities. Remove and provide new construction that has been cut and patched in a visually unsatisfactory manner.

### 3.2 PREPARATION FOR CUTTING AND PATCHING

- A. Provide supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage. Provide protection from elements for areas which may be exposed by uncovering work. Maintain excavations free of water.
- B. Cut, move or remove items as necessary for access to alterations and renovation Work to proceed. Replace and restore at completion. Remove unsuitable materials not marked for salvage, such as abandoned furnishings and equipment, rotted wood, rusted metals and deteriorated masonry and concrete. Replace materials as specified for finished work.
  - 1. Unbolt bolted connections. Unscrew screw connections.
  - 2. Do not pry apart members whose finish will thereby be damaged by chipping, crazing, or cracking, or whose structural integrity will thereby be impaired.
  - 3. Do not remove nails from woodwork from the finished or exposed side. Drive nails through or pull from the back so the head does not splinter the finished face.
- C. Remove debris and abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring from concealed and exposed spaces. Prepare surfaces and remove surface finishes to provide for proper installation of new work and new finishes.
- D. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

### 3.3 CUTTING AND PATCHING

- A. Execute cutting, fitting and patching including excavation and fill, to complete Work and to:
  - 1. Fit the several parts together, to integrate with other work.
  - 2. Uncover work to install ill-timed work.
  - 3. Remove and provide new defective and non-conforming work.
  - 4. Remove samples of installed work for testing.
  - 5. Provide openings in non-structural elements for penetrations of mechanical and electrical work.

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6. Repair openings in non-structural elements left by removal of mechanical and electrical work.
- B. Execute work by methods to avoid damage to other Work and which will provide proper surfaces to receive patching and finishing. Cut rigid materials using masonry or core drill. Pneumatic tools will not be allowed without prior approval.
- C. Restore work with new products. Follow requirements of Contract Documents. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- D. At penetrations of smoke- and fire-rated walls, partitions, ceiling and floor construction, completely seal annular space and voids with fire-rated material, full thickness of the construction element. Follow Section 078400.
- E. At penetrations of acoustically-rated walls and partitions, completely seal annular space and voids with acoustically-rated material, full thickness of the construction element.
- F. Cut, fit, and seal walls and partitions for chases, pipes, conduit, sleeves, grounds and other penetrations in a manner which will maintain the walls' and partitions' appearance and fire and smoke integrity. Cooperate with other Sections of work to provide correct size, shape and location of penetration as needed to maintain fire and smoke integrity.
- G. Obtain Architect/Engineer approval prior to cutting or fitting any area not indicated where appearance, strength and fire or smoke integrity of work may be impaired. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection. For an assembly, refinish entire unit.
- H. Perform work on existing materials still under warranty in such a manner that does not void Owner's warranty. Coordinate work of alterations and renovations to expedite completion.
- I. Perform cutting and removal work to remove minimum necessary and in a manner to avoid damage to adjacent work.
- J. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent new finishes.
- K. Install products as specified in individual Sections.
- L. Inspect, repair, and/or replace existing accessible insulation within areas of renovation.
- M. In areas of renovation, if existing lined ductwork to remain is reworked, then reseal liner seams and punctures.
- N. In areas of concrete slab on grade trenching, treat patched concrete infill area with a moisture vapor emissions and alkalinity control sealer capable of reducing moisture vapor emissions from up to 24 pounds before treatment and to under 3 pounds/1000 sf after treatment from the substrate.
- O. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
- P. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

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### 3.4 TRANSITIONS

- A. When new Work abuts or finishes flush with existing work, make a smooth and even transition. Patched Work shall match existing adjacent Work in texture and appearance so that the patch or transition is invisible at a distance of five feet.
- B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and provide trim appropriate to finished surface. Where new openings are cut into existing masonry walls, tooth new masonry into existing masonry.

### 3.5 ADJUSTMENTS

- A. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls and ceilings to a smooth plane without breaks, steps, or bulkheads. Where a change of plane of 1/4 inch or more occurs, request instructions from Architect/Engineer as to method of making transition.
- B. Trim existing doors as necessary to clear new floors. Refinish trim as needed for a complete installation. Fit work to penetrations of surfaces as specified in this Section.

### 3.6 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections, with matching material. Repair substrate prior to patching the finish. Reconstruct streets and driveways disturbed by the Work to existing grades and in such a manner as to leave surfaces in good or better condition than before construction started.

### 3.7 FINISHES

- A. Finish surfaces as specified in individual Products Sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.
- C. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

### 3.8 PROTECTION

- A. Protect existing finishes, equipment and adjacent work which are scheduled to remain, from damage.

END OF SECTION

SECTION 017405  
CLEANING

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Progress cleaning.

PART 2 PRODUCTS

2.1 SUMMARY

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
- B. Do not use cleaning products containing alpha-pinene, d-limonene or other unsaturated carbon double bond alkenes.

PART 3 EXECUTION

3.1 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials

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specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION

SECTION 017600

PROTECTION OF INSTALLED CONSTRUCTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes protection of installed construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturers' written instructions for temperature and relative humidity.
- C. Protect outdoor pool and its equipment from exposure to adverse weather conditions such as freezing temperatures until Substantial Completion of entire project including both indoor and outdoor pools.

END OF SECTION 017600





SECTION 017700

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Warranties.
  - 3. Final cleaning.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 4. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
  - 5. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  - 6. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  - 7. Complete startup testing of systems.
  - 8. Submit test/adjust/balance records.
  - 9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  - 10. Advise Owner of changeover in heat and other utilities.
  - 11. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
  - 12. Complete final cleaning requirements, including touchup painting.
  - 13. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
  - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
  - 2. Results of completed inspection will form the basis of requirements for Final Completion.

### 1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
  - 1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
  - 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  - 4. Submit pest-control final inspection report and warranty.
  - 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
  - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

### 1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit electronic copies of list (pdfs). Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  - 3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.

### 1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
  - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or

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installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - g. Sweep concrete floors broom clean in unoccupied spaces.
    - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
    - i. Clean transparent materials, including glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
    - j. Remove labels that are not permanent.
    - k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

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- 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
  - l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  - m. Replace parts subject to unusual operating conditions.
  - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
  - p. Clean ducts, blowers, and coils if units were operated without filters during construction.
  - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
  - r. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

SECTION 017823  
OPERATIONAL AND MAINTENANCE DATA

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Operating and Maintenance Data, including the following:
  - 1. Operation and maintenance documentation directory.
  - 2. Operation manuals for systems, subsystems, and equipment.
  - 3. Maintenance manuals for the care and maintenance of products, materials, and finishes, systems and equipment.

1.2 SUBMITTALS

- A. Initial Submittal: Submit 2 draft copies of each manual at least 10 days before requesting inspection for Substantial Completion. Include a complete operation and maintenance directory. Architect will return one copy of draft and mark whether general scope and content of manual are acceptable.
- B. Final Submittal: Submit one copy of each manual in final form at least 10 days before final inspection. Architect will return copy with comments within 10 days after final inspection.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 10 days of receipt of Architect's comments.

1.3 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 OPERATIONAL AND MAINTENANCE DATA

- A. Submit Operations and Maintenance Manuals prior to Substantial Completion, bound in 8-1/2 x 11 inch three ring side binders with durable plastic covers with typed or printed title, "OPERATION AND MAINTENANCE INSTRUCTIONS", list title of Project, Owner name and address, date of submittal, Contractor's name and address. Indicate on title sheet that at least one copy of O & M manual is in possession of Owner or occupant.

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- B. Provide data in the form of 2 manuals and on two CD's in Adobe PDF format. Operations and Maintenance Manuals files shall be submitted as one file with each C.S.I. division tabbed or book-marked.
  - 1. PDF naming convention shall be as follows: BLDG# - ARCHITECT PROJECT # - OM.PDF. Examples: 135-9706-PM.PDF or 135-9706-OM.PDF. Zip files are not permitted.
  - 2. O & M disk(s) and case(s) shall be labeled: O&M Manual, Certificate of Substantial Completion date, official project name, official project number, and disk number. For example:
    - O&M Manuals
    - COSC Date
    - Blair School of Music
    - Renovation and Addition
    - Phase I
    - 9706-01
    - Disk 1 of 1
- C. Table of Contents: Provide listing of all O&M components.
- D. Part 1: Directory, listing names, addresses and telephone numbers of: Architect/Engineer and Contractor and all subcontractors and suppliers
- E. Part 2: Operation and maintenance instructions, arranged by system. For each system, give written description of each system, where each system is located in building, and how each part functions separately and in the system as a whole. Include names, addresses and telephone numbers of subcontractors and suppliers. List procurement information with numbers and a description for each piece of equipment including:
  - 1. Appropriate design criteria.
  - 2. List of equipment with sizes and selected options.
  - 3. Parts list.
  - 4. Operating instructions.
  - 5. Maintenance instructions and schedule, equipment.
  - 6. Shop drawings and product data.
  - 7. Warranties.
  - 8. Drawings folded to fit binder.
  - 9. Energy ratings as needed for future conservation calculations.
  - 10. Complete start up, operation, and shutdown procedures for each system including sequence of events, locations of switches, emergency procedures, and all other critical items.
  - 11. Lubrication schedules and types of lubricants.
  - 12. Certified testing and balance report.
  - 13. Equipment summary showing all capacities and ratings.
  - 14. Horsepower, tonnage, kW, and related information.

### 3.2 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts and maintenance materials in quantities specified in each section, in addition to that required for completion of Work. Coordinate with Owner, deliver to Owner's representative and obtain receipt prior to final payment.

END OF SECTION

## SECTION 017839

### PROJECT RECORD DOCUMENTS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.

##### 1.2 SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Electronically submit copies of Record Drawings as follows:
    - a. Initial Submittal: Submit marked-up Record Prints electronically on pdf. Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Architect will return unacceptable pdfs with comments prints for correction and resubmittal by Contractor.
    - b. Final Submittal: Submit marked-up Record Prints, electronically via pdf. Submit pdf's of each Drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications, electronically via pdf.

#### PART 2 - PRODUCTS

##### 2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of black-line white prints of the Contract Drawings and Shop Drawings.
  - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an understandable drawing technique.
    - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
  - 2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings.
    - b. Revisions to details shown on Drawings.
    - c. Depths of foundations below first floor.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.



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- i. Locations of concealed internal utilities.
    - j. Changes made by Change Order or Construction Change Directive.
    - k. Changes made following Architect's written orders.
    - l. Details not on the original Contract Drawings.
    - m. Field records for variable and concealed conditions.
    - n. Record information on the Work that is shown only schematically.
  3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
  4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing pdf; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize pdfs into manageable folders.
  2. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect.
    - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. Note related Change Orders and Record Drawings where applicable.

## 2.3 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project

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Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839



SECTION 017921  
DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training DVD's.
- B. Related Documents include the following:
  - 1. Divisions 2 through 49 Sections for specific requirements for demonstration and training for products in those Sections.

1.2 SUBMITTALS

- A. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module. At completion of training, submit two complete training manual(s) for Owner's use.
- B. Qualification Data: For facilitator.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.
- E. Demonstration and Training DVD's: Submit two copies within seven days of end of each training module.
  - 1. Identification: On each case and DVD, provide an applied label with the following information:
    - a. O&M TRAINING
    - b. Name of Project
    - c. Phase (if applicable)
    - d. Name of Architect.
    - e. Name of Contractor.
    - f. Date DVD was recorded.
    - g. "Disk 1 of 1" (or other appropriate number).
  - 2. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, 3-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding DVD. Include name of Project and date of DVD on each page.

1.3 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

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- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 1 Section "Quality Requirements," experienced in operation and maintenance procedures and training.

### 1.4 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

## PART 2 PRODUCTS

### 2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:
  - 1. Equipment, including pool equipment.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
  - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.
    - e. Equipment function.
    - f. Operating characteristics.
    - g. Limiting conditions.
    - h. Performance curves.
  - 2. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Operations manuals.
    - c. Maintenance manuals.
    - d. Project Record Documents.
    - e. Identification systems.
    - f. Warranties and bonds.
    - g. Maintenance service agreements and similar continuing commitments.
  - 3. Emergencies: Include the following, as applicable:
    - a. Instructions on meaning of warnings, trouble indications, and error messages.
    - b. Instructions on stopping.
    - c. Shutdown instructions for each type of emergency.
    - d. Operating instructions for conditions outside of normal operating limits.
    - e. Sequences for electric or electronic systems.
    - f. Special operating instructions and procedures.
  - 4. Operations: Include the following, as applicable:

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- a. Startup procedures.
  - b. Equipment or system break-in procedures.
  - c. Routine and normal operating instructions.
  - d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
  - a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
  - a. Diagnostic instructions.
  - b. Test and inspection procedures.
7. Maintenance: Include the following:
  - a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
8. Repairs: Include the following:
  - a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

### 3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

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- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner, through Architect/Engineer, with at least seven days' advance notice.
- D. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

### 3.3 DEMONSTRATION AND TRAINING

- A. General: Engage a qualified commercial photographer to record demonstration and training DVDs. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
  - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.
- C. Narration: Describe scenes on DVD by audio narration by microphone while DVD is recorded. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- D. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from DVD opposite the corresponding narration segment.

END OF SECTION

## SECTION 024119

### SELECTIVE STRUCTURE DEMOLITION

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES

- A. Demolition and removal of selected portions of building or structure.
- B. Demolition and removal of selected site elements.
- C. Salvage of existing items to be reused.

##### 1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner,.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- E. Hazardous Materials: Friable asbestos, or asbestos containing materials, polychlorinated biphenyls (PCB(s)), petroleum products, natural gas, nuclear materials and by-products regulated by the Atomic Energy Act (42 U.S.C. (2011, et seq.)), pesticides regulated under the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. (136, et seq.)), and any hazardous waste, toxic or dangerous substance or related material, including any substance defined, determined or identified as hazardous waste, toxic substance, contaminant, or comparable term in any Environmental Law.

##### 1.3 CLOSEOUT SUBMITTALS

- A. Accurately record actual locations of capped utilities, subsurface obstructions and related items.

##### 1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- C. Pre-demolition Conference: Conduct conference at Project site. Review methods and procedures related to selective demolition including, but not limited to, the following:
  - 1. Inspect and discuss condition of construction to be selectively demolished.
  - 2. Review structural load limitations of existing structure.



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3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

### 1.5 REGULATORY REQUIREMENTS

- A. Conform to applicable code for demolition work, dust control, products requiring electrical disconnection and re-connection, and related items.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.
- D. Obtain required permits from authorities.
- E. Do not close or obstruct egress width to any building or site exit.
- F. Do not disable or disrupt building fire or life safety systems without 3 days prior written notice to Owner.
- G. Conform to procedures applicable when hazardous or contaminated materials are discovered.

### 1.6 SCHEDULING

- A. Schedule Work to precede new construction.
- B. Perform noisy, ill-smelling, dusty, and similar work at times convenient to Owner.
  1. Between the hours of 7:00 am and 5:00 pm on the following days: Monday through Friday.
  2. Anytime on Saturday and Sunday.

### 1.7 EXISTING CONDITIONS

- A. Conduct demolition to minimize interference with Owner's normal operations and with adjacent building areas. Maintain protected egress and access at all times.
- B. Provide, erect and maintain temporary barriers and security devices.
- C. Notify Architect/Engineer of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.
- E. Conduct demolition to minimize interference with adjacent and occupied building areas.

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- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations. Maintain fire-protection facilities in service during selective demolition operations.

### 1.8 PROCEDURAL REQUIREMENTS FOR HAZARDOUS MATERIALS

- A. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If hazardous materials are suspected or encountered, immediately suspend work in suspected area of contamination, withdraw from area and notify Architect/Engineer and Owner in writing.
  - 2. Comply with requirements of EPA, Code of Federal Regulations, National Emissions Standards and OSHA regulations on hazardous materials and all other applicable Federal, State and local government regulations which are incorporated by reference.
  - 3. Do not resume work in affected area except by written agreement of Owner if material is hazardous and has not been rendered harmless.
  - 4. Resume work in affected area if material is found not to be hazardous materials or has been rendered harmless, by written agreement of Owner.
  - 5. Contractor will not be required to perform Work relating to hazardous materials without appropriate Change Order.

### 1.9 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

Not used.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine products or materials before installation. Reject products or materials that are wet, moisture damaged, or mold damaged.
- B. Verify that utilities have been disconnected and capped.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- E. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect/Engineer.
- F. Survey of Existing Conditions: Record existing conditions by use of any combination of measured drawings and preconstruction photographs. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent

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record of measurements, materials, and construction details required to make exact reproduction.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
  - 1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
  - 2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.
    - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.
- B. Disconnect, remove and cap designated utility services within demolition areas. Arrange to shut off indicated utilities with utility companies.
  - 1. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
  - 2. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.
- C. Remove dead end piping (risers with no flow, branches with no fixture). Empty risers, mains, and branches for future use shall remain.
- D. If construction activities occur in or around existing to remain plumbing fixtures, such as lavatories, sinks, toilets, urinals, floor drains, and janitorial, mop, or slop sinks, and their components, then take measures as necessary to protect them from damage due to construction activities. If any of these systems become clogged or choked with trash, waste, or debris or get damaged in any way as a result of construction activities, then repair effected system as required to return system or component to pre-construction condition at no additional expense to Owner.

### 3.3 PREPARATION

- A. Erect and maintain weatherproof closures for exterior openings as specified in Section 015000.
- B. Erect and maintain temporary partitions to prevent spread of dust, fumes, noise and smoke to provide for Owner occupancy as specified in Section 015000.
- C. Protect existing items which are not indicated to be altered.
- D. Mark location of disconnected utilities. Identify and indicate capping locations on Project Record Documents.

### 3.4 SPECIAL TECHNIQUES, GENERAL

- A. Demolish in an orderly and careful manner. Protect existing foundation, supporting structural members and utilities which are to remain.
  - 1. Proceed with selective demolition systematically, from higher to lower level.

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2. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  3. Do not use cutting torches.
  4. Dispose of demolished items and materials promptly.
- B. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
1. Pre-water areas being disturbed and continue to water during activity that produces fugitive dust.
  2. Appropriately match water application equipment size and rates to soil and site characteristics including area.
  3. Water can be applied by any suitable means such as trucks, hoses, and/or sprinklers appropriate for site characteristics.
  4. Decreased need when natural crust present.
- C. Remove and promptly dispose of contaminated, vermin infested, or dangerous materials encountered.
- D. Remove materials to be re-installed or retained in manner to prevent damage. Store and protect products; follow Section 016000.
- E. Removed and Salvaged Items:
1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to Owner.
  4. Transport items to Owner's storage area on-site.
  5. Protect items from damage during transport and storage.
- F. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
  2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  3. Protect items from damage during transport and storage.
  4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- G. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect/Engineer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 SPECIAL TECHNIQUES FOR SPECIFIC MATERIALS

- A. Concrete: Use abrasive saws to remove portions of concrete slabs for achieving a clean, straight edge. Use core drilling for cutting openings in concrete to allow installation of new piping. The use of impact tools is prohibited.
- B. Sealant: Remove all traces of old sealant left on substrates to remain. No "ghost images" shall remain.

### 3.6 DISPOSAL OF DEMOLISHED MATERIALS

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- A. Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from site as work progresses. Upon completion of work, leave areas of work in clean condition.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- C. Do not burn or bury materials on site.
- D. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 13 11 10

SWIMMING POOL EQUIPMENT

**A GENERAL**

- A.1 This Section describes swimming pool construction and swimming pool equipment, broken up into various packages.
- A.2 Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- A.3 Protect outdoor pool and its equipment from exposure to adverse weather conditions such as freezing temperatures until Substantial Completion of project including both indoor and outdoor pools.
- A.4 Substitutions: Permitted under provisions of Section 012500.
- A.5 "Material only" or "furnish" means delivered and off loaded at job site, ready for installation.
- A.6 "Labor" or "install" means complete installation, placed in position for service or use.
- A.7 "Provide" means furnish and install, complete and ready for intended use.

**A.8 SUMMARY OF WORK**

**A.8.1 Package One (Outdoor Pool): Gutter System, Filter System, Main Drains**

Items P1, P2, P3, P4, P5, P6, and P8: Material and labor, complete.

Owner's GC Contractor will prepare pool walls and anchors for gutter; will grout in gutter, and shall backfill.

Item F1, Vacuum Sand Filter and Filtration Pumps: Material only; Owner's GC Contractor will install.

Owner's GC Contractor will prepare structural pad and imbedded anchors to receive filter; shall off load filter and pumps via crane, forklift, or other means as it sees fit; shall set filter on pad; shall weld filter to imbedded anchors; shall back fill as necessary; and shall make final plumbing connections.

Items P7, WF13, F2, F3, F4, F5, M1, and M2: Material only; Owner's GC Contractor will install.

Anchorage: Material only; Owner's GC Contractor will install.

**A.8.2 Package Two (Outdoor Pool): Sanitizing Equipment:**

Items F6, F7, F8, and F9: Material only; Owner's GC Contractor will install.

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### A.8.3 Package Three (Outdoor Pool): Deck/Miscellaneous Equipment:

Items P9, D1, D3, D4, D5, D6, D7, D8, D9, D10, S1, WF27 and M14: Material only; Owner's GC Contractor will install.

WF27 is/are valve pit plumbing manifolds for multiple water features. Manufacturer furnishes stainless steel hatches.

Owner's GC Contractor will prepare concrete/gravel pit, manifolds and plumbing; will coordinate with deck contractor during deck pour to provide lip for attachment of hatch; and will grout fill hatch.

Items C1, C2, C3, C4, C5, C6, and C7: Material only; Owner's GC Contractor will install.

### A.8.4 Package Four (Outdoor Pool): Water Feature Equipment:

Items M6, M7, WF1, WF2, WF3, WF4, WF5, WF6, WF7, WF8, WF9, WF10, WF11, WF12, and WF23: Material only; Owner's GC Contractor will install.

### A.8.5 Package Five (Outdoor Pool): Slides, Engineering Documents, and Installation Equipment:

Items WF14, WF15, and WF 16: Material and labor, complete.

Owner's GC Contractor will provide structural foundations and will make final plumbing connections for slides.

### A.8.6 Package Six (Outdoor Pool): Water Features:

Items M9, WF17, WF18, WF19, WF20, WF21, WF22, WF24, WF25, and WF26: Material only; Owner's GC Contractor will install.

Items M11, M12 and M13: Material only; Owner's GC Contractor will install.

### A.8.7 Package Seven (Outdoor Pool): Current Walk Equipment:

Items CW1 and CW2: Material only; Owner's GC Contractor will install.

### A.8.8 Package Eight (Outdoor Pool): Underwater Speaker Equipment:

Item UW1: Material only; Owner's GC Contractor will install.

### A.8.9 Package Nine (Outdoor Pool): Climbing Wall Equipment:

Item M10: Material only; Owner's GC Contractor will install.

### A.8.10 Package Ten (Indoor Pool): Gutter System, Main Drains:

Items P1, P2, P3, P4, P5, R3 and S3: Material and labor, complete.

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Owner's GC Contractor will prepare pool walls and anchors for gutter; will grout in gutter, and shall backfill.

Items P6, P7, P8 and P9: Material only; Owner's GC Contractor will install.

### A.8.11 Package Eleven (Indoor Pool): Evacuator:

Item P10: Material and labor, complete, behind gutter.

Evacuator provider shall stop at flanged connections.

Owner's GC contractor will pick it up from there. Owner's GC will backfill.

### A.8.12 Package Twelve (Indoor Pool): Deck/Miscellaneous Equipment:

Items D1, D2, D3, D4, D5, D6, M1 and M2: Material only; Owner's GC Contractor will install.

### A.8.13 Package Thirteen (Indoor Pool): Climbing Wall Equipment:

Item M4: Material only; Owner's GC Contractor will install.

### A.8.14 Package Fourteen (Indoor Pool): Touch Pad Timing System Equipment:

Item M5: Material only; Owner's GC Contractor will install.

### A.8.15 Package Fifteen (Indoor Pool): Racing Equipment:

Items R1, R2, R4 and R5: Material only; Owner's GC Contractor will install.

## A.9 ITEMS BY OWNER'S GC CONTRACTOR

### A.9.1 Work provided by the Owner's GC (or one of its subcontractors or vendors) includes:

Electrical including conduit, wiring, and equipotential bonding of pool and pool equipment.

Pool layout with benchmark.

Culk excavation and granular sub-base.

Hand trimming of excavation.

Required forms for pool construction.

Reinforcing steel.

Monolithic or pneumatically applied pool structure (shotcrete).

Ceramic tile racing lanes and end wall markers (indoor pool only).



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Interior pool finish.

Electrical connections and pool or equipment grounding.

Disconnect switches as indicated or required by codes.

Miscellaneous pool testing and cleaning equipment.

Site access for heavy equipment.

Disposal of excavated material.

Stripping pool area, grading, backfilling, and other area preparation required prior to start of pool construction.

Construction and backfill of foundations, equipment room walls, footings and sumps.

Deck construction, finishes, expansion joints, caulking, and deck drains.

Sleeves, openings, and other penetrations in equipment room walls and closure of same as required for pool construction work.

Dewatering of pool excavation.

General construction work not called for in this Section.

Fresh water connection to filter, fill spout, and makeup water tank and waste water connection from filter.

Backfill required for pool structure and main drain piping.

Access to filter room for filter equipment.

### A.10 QUALITY OF MATERIALS

Where references are made to Federal Specifications, American Society for Testing and Materials, American Standards Association, American Institute of Steel Construction, Steel Institute, and similar associations, organizations and standards, it shall be construed to mean their current specifications and designations as amended as of date of bid opening.

### A.11 CONTRACTOR QUALIFICATIONS

A.11.1 Contractor shall have at least Ten (10) years' experience in construction of type of swimming pool herein specified and shall list at least ten (10) pools of this type, each with a water surface area of not less than 6,000 square feet and a monetary value of not less than \$600,000 which Contractor has constructed and which, upon investigation, would be found to have been completed in a satisfactory manner and in operation and constructed in last ten (10) years.

A.11.2 The Owner reserves right to reject Contractor if in opinion of Owner such contractor shall not be acceptable for this project.

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### A.11.3 Acceptable Contractors:

Augusta Aquatics, North Augusta, SC

Curleson Pools, Owens Cross Roads, AL.

Paddock Pool Construction, Rock Hill, SC.

Sunbelt Pools of Atlanta and Sunbelt Pools of Dallas, A Joint Venture

### A.12 CODES

Perform Work in this Specification according to applicable local, state and national codes and regulations.

### A.13 SUBMITTALS

#### A.13.1 Before commencing work, submit shop drawings to Architect indicating work called for in this Specification.

Water Slides: Provide shop drawings for water slides bearing seal of a professional engineer licensed in Tennessee.

#### A.13.2 Provide proof of mechanic's experience.

#### A.13.3 Provide certificate from stainless steel gutter manufacturer showing type of stainless and chemical composition.

#### A.13.4 Operations and Maintenance Manuals:

Variable Frequency Motor Controls: Describe features, operating instructions, maintenance procedures and replacement parts. Supply complete shop drawings and printed instructions for installation and operation of equipment.

Automated Chemical Control System With Flow Meter: Describe features, operating instructions, maintenance procedures and replacement parts.

## B WARRANTY

Standard Warranty: Standard one-year contractual warranty for project shall apply to Work of this Section except as indicated.

## C PERIMETER CIRCULATION SYSTEM (OUTDOOR POOL)

### C.1 PERIMETER OVERFLOW SYSTEM

Provide a factory fabricated radial curved perimeter overflow system consisting of stainless steel overflow channel covered by a UV protected PVC grating and integral filtered water supply channel according to details shown on Drawings around perimeter of pool.

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System shall conform exactly to pool walls, matching design radius requirements continuously around perimeter. Field fabricated sections, shall not be acceptable. Provide radiused or other corners as are standard with manufacturer.

Provide certificate indicating stainless steel used for gutter manufacture. Provide procedures for welding, brushing, blending, testing, and cleaning.

Acceptable Manufacturers:

“R300 Perimeter” by Paddock Pool Equipment Company, Inc., Rock Hill, SC

“Natare Stainless Steel Perimeter Recirculation System” by Natare Corp. , Indianapolis, IN.

Approved substitute.

Single Source Responsibility: Provide complete recirculation and filtration equipment requirements for this job from one manufacturer so that instructions, service and warranty claims will be handled by one organization specializing in this work.

Work covered under this package shall be performed by an authorized licensee of manufacturer. Perform installation by a welder with at least five years' experience in field welding stainless steel recirculating systems.

- C.1.1 Materials: Fabricate perimeter sections from Type 304L stainless steel. Provide 1-1/2" X 1-1/2" X 3/16" stainless angle anchors and stiffener brackets. Provide material from a U.S. owned and U.S. located mill.
- C.1.2 Zero Depth Entry Overflow Channel: Zero depth entry area shall feature a stainless steel overflow channel protected by PVC grating to receive waves from pool. Top of channel shall be at deck level and shall not present a trip hazard to swimmers entering pool.
- C.1.3 Finish: Low carbon stainless steel components shall be cleaned and polished to present a substantially uniform finish similar or approved substitute to a #3 polished (100 mesh abrasive) finish.
- C.1.4 FILTERED WATER SUPPLY CHANNEL

Filtered water return tube shall be fitted with appropriately sized nylon jet inlet nozzles placed in a continuous “V” notch formed into perimeter or other means as are standard with manufacturer. Channel shall be formed in such a way as to create a continuous rounded ninety degree angle where bottom face of gutter system meets interior pool wall.

Inlets placed in channel by method other than inside a “V” notch as described above will not be acceptable. A stainless steel finish flange attached to bottom of face of gutter system will not be acceptable.

Inlets shall be spaced not more than 36" on center around pool perimeter except where expressly deleted or grouped under racing line anchors. These inlet jets shall be installed so as to provide a stream of filtered chlorinated water on a fixed 45 ° angle directed toward bottom of pool.

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Filtered water supply conduit shall be machined welded using TIG process by manufacturer in their plant and pressure tested prior to shipment. Field welded pressure conduits shall not be acceptable.

### C.1.5 OVERFLOW CHANNEL

Main overflow channel shall be fitted with air relief jet flow nozzles to provide a constant stream of filtered chlorinated water in channel to prevent stagnation or build-up of dirt, as shown on Drawings. areas of gutter shall be accessible for inspection and cleaning.

Overflow channel shall be covered by a protective grating formed of extruded PVC sections comprised of 5/8" wide, 1" deep extruded I-beam ribs placed perpendicular to pool perimeter for maximum efficiency in quelling waves.

Top shall be serrated to create a non-skid surface. Open area of grating shall not be less than 32%. Grating shall be white unless otherwise specified on plans.

### C.1.6 SURGE WEIRS

Surge control weirs shall be installed in perimeter overflow system as shown on Drawings. They shall be located to provide a surface cleaning action when water level is below perimeter overflow system lip during periods of non-use.

Weir gate shall close automatically as water level in pool rises, thus allowing pool to be operated at rim level for competition without flooding overflow channel. System specified provides for automatic closing of surge weirs for rim flow operation without raising water level in perimeter channel, thus providing perimeter surge containment to prevent momentary surcharging of perimeter overflow system channel and to provide capacity for wave entrapment and quelling during competition.

Surge control weirs shall be responsive only to changes in water level within pool. Weirs that respond only to changes in water level in perimeter overflow channel shall not be acceptable. Flow through each weir shall be designed to be 50 GPM max.

System specified provides "in-pool" surge capacity of one gallon per square foot of pool surface area and quiescent surface cleaning in a manner which permits water displaced by bathers and their dynamic surge to remain within pool structure.

### C.1.7 ANCHORAGE

Perimeter overflow system section shall be anchored to pool structure with commercial quality threaded stainless steel rods (or U-bars, if shown on Drawings) installed as shown on Drawings. These anchors shall be placed one-foot from corners and on a maximum of four-foot centers around pool.

### C.1.8 ACCESSORIES

Perimeter system shall be fitted with stainless steel converters, air relief jet wash fittings, surge weirs, and lane line anchors as necessary to achieve proper performance and design. Quantities, locations, and descriptions shall be as shown on Drawings.

### C.1.9 INSTALLATION

## SWIMMING POOL EQUIPMENT

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Install package according to manufacturer's written installation instructions and approved submittals.

Contractor shall perform required grouting and caulking of perimeter recirculation system as shown on Drawings.

### C.1.10 GUTTER SEALANT

Material: One-part polysulfide sealant that chemically cures to form a firm, rubbery waterproof seal; color as selected by Architect from manufacturer's premium range.

Provide sealant to be used as a sealing application between bottom of gutter system and grout under gutter. Tool a joint in grout under gutter to provide a groove to apply sealant.

Clean and abrade surfaces with a fine grade abrasive prior to sealant application to enhance bond strength.

Acceptable Manufacturers: "Ruscoe High Velocity (HV) Permanent Sealer" by The Ruscoe Co., Akron, OH or approved substitute.

### C.1.11 ENGINEERING SERVICES

Supply services of a competent and experienced field engineer to test, inspect completed installation and present to Owner representative.

Place it in operation and give operating instructions relative to its care and use.

## D VACUUM SAND FILTER

### D.1 FILTER REQUIREMENTS

Filtration shall be accomplished by drawing water through a permanent media bed of sand. A specially designed vacuum equalization system shall maintain a uniform flow through media bed to recirculation pump after which filtered water shall be returned to pool.

Acceptable Manufacturers:

"Compak Vacuum Sand Filter (VSC)" by Paddock Pool Equipment Company, Inc., Rock Hill, SC

Natare Corp., Indianapolis, IN.

Approved substitute.

### D.2 FILTER TANK

Filter shall be a single chamber, open top rectangular tank, and shall contain a vacuum equalization screen, media, underdrain system, backwash trough, control piping, valves, gauges, air release system, and pump and motor to make a complete filtering unit.

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Filter walls shall be constructed of low carbon Type 316L stainless steel, 12 gauge or 1/8" for larger tanks in thickness, floor is 3/16". Tank interior and exterior shall be coated with a protective epoxy coating for buried installation.

Provide a 3" IPS male overflow connection and a 1½" IPS female water make-up connection. Extend valve handles so that valves may be operated from above blue fibergrate that covers filter tank to serve as a platform and as a guide for upper end of valve handle extensions.

Vacuum equalization screen shall be corrugated perforated fiberglass and sized to exact dimensions of tank. Vacuum equalization screen shall be supported by brackets welded to sides of tank. At one end, there shall be a view port to permit observation of sand during backwash.

### D.3 VARIABLE FREQUENCY MOTOR CONTROL

Variable Frequency Drive (VFD) shall be designed and manufactured to respond to 4-20mA output control from automated chemical controller specified above. VFD shall be designed to allow user automated control of system recirculation motor via a paddle-wheel flow sensor installed on return line of circulation system.

VFD controls not able to interact with a chemical controller or act solely as a stand-alone system shall not be considered.

Acceptable Manufacturers: Schneider Electric or approved substitute.

#### D.3.1 VFD Certifications: The Variable Frequency Drive shall carry the following product certifications:

ANSI/NFPA 70 – National Electrical Code

UL 508 – UL Standard for Industrial Control Equipment

UL 508C – UL Standard for Power Conversion Equipment

NEMA ICS 7.1

#### D.3.2 VFD Requirements

AC Drive shall convert input AC mains power to an adjustable frequency and voltage.

Input power section shall utilize a full wave bridge design. rectifiers shall convert AC line power to fixed voltage and frequency to fixed DC voltage.

Output power section shall convert fixed DC voltage to an adjustable frequency AC voltage

Hand-Off-Auto switch, Speed Potentiometer, and Adjustable Frequency Controller-Off-Bypass switch shall be mounted and wired to drive door or located on drive keypad.

AC Drive power converter shall be enclosed in a NEMA enclosure with a circuit breaker disconnect, user terminal strip connections, and bypass controls. enclosure shall provide dedicated user terminals for power and control device connection.

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AC Drive shall be sized to operate a variable torque load.

Speed range shall be from a minimum speed of 1.0Hz to a maximum speed of 72Hz. AC Drive shall be factory programmed to operate specified devices.

Acceleration and deceleration ramp times shall be adjustable from 0.05 to 999.9 seconds.

Memory shall retain and record run status, detected fault type, motor current, output frequency, elapsed time, mains voltage, motor thermal state, command channel, channel reference active and status word information in diagnostic fault history.

Control power for digital inputs shall be 24Vdc.

Input/Output connection terminals shall be used on logic and analog signal connections in power converter.

Combination enclosure shall have the following operator controls depending on options selected:  
Hand-Off-Auto switch

Speed potentiometer AFC-Off-Bypass switch

In automatic mode of operation, bypass contactors shall be sequenced by 120V auto start contact provided by user.

Bypass contactor shall be de-energized to provide motor isolation during a drive ready state of operation.

drive output contactor shall be de-energized during drive bypass operation.

Installation shall be in compliance with manufacturer's instructions, Drawings, and recommendations.

VFD supplier shall provide wiring interface between automated chemical controller system and VFD device. interface shall be designed to allow VFD to maintain a specific flow (GPM) in pool/spa recirculation system based on a flow signal delivered from chemical controller.

### D.3.3 VFD Warranty, Start-Up and Manuals

An 18-month warranty shall be provided from manufacturer for materials.

Training and start up shall be provided by AC Drive manufacturer, or its authorized factory-certified service provider.

### D.4 FILTER MEDIA

Filter media shall be carefully selected grade of silica sand. Depth of media bed shall be 18 inches. Sand shall be free from clay or limestone deposits. Hydrochloric acid and solubility shall not exceed 1%, iron content 0.1%.

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Sand shall have a particle size between .45mm and .55mm with a uniformity coefficient of 1.6 maximum. Sand shall be supported on a layer of 1/16" to 1/8" gravel. Four (4) inches of gravel shall be placed in bottom of tank for support of underdrain laterals. Media shall be supplied in separate bags, each containing approximately 1 cubic foot.

### D.5 UNDERDRAIN SYSTEM

Filter chamber shall be supplied with a pressure equalizing underdrain system consisting of a central header tapped for 2" laterals. Laterals shall be molded, slotted with orifice slots on 0.1985" centers, extending around 1/2 perimeter of lateral. Loss in underdrain system from entrance slots to flange at suction header shall not exceed 0.5 inches Hg.

### D.6 AIR RELEASE SYSTEM

Provide one automatic air release system so that at regular intervals, air removed from water due to negative pressure in filter system can be released upwards to atmosphere. A manually reset vacuum limit controller shall be provided as an integral part of system.

Air release and vacuum limit system requires a 115-volt, 60 cycle, and 10-amp supply circuit. Connections to 115 volt electrically held contactor in coil of recirculation pump and motor starter or VFD, circuit power and electrical conduits by Owner's GC or its electrical subcontractor.

### D.7 FACE PIPING

Filter manufacturer shall supply integral piping required in filter tank to carry out normal functions of filter. Filter tank shall have exterior flanges or thread connections for main drains, perimeter overflows, return to pool, backwash to waste, tank drain, and tank overflow.

### D.8 VALVES

Provide the following valves: (1) main drain float valve, (1a) minimum operating level set valve, (2) suction valve, (3) return to pool valve, (4) backwash suction, (5) backwash to waste, (6) underdrain control valve (7) perimeter overflow outlet, and (8) backwash influent.

Valves shall be nylon coated cast iron bodied wafer type butterfly valves with Type 316 stainless steel shaft and nylon coated disc. Valve operators shall be extended above and be guided by fiberglass grating. Six and eight inch valves shall be lever operated. Valves 10" and larger shall be gear operated. When 8" and 10"-12" are used on same filter, valves shall be gear operated.

### D.9 GAUGES

Filter air release system shall be supplied with a vacuum and pressure gauge mounted on a common gauge holder.

### D.10 BACKWASH CONTROL

Filter backwash initiation shall be indicated by a vacuum limit switch. When a preset vacuum is reached, pump shall shutdown, indicating filter requires cleaning. After a two to four minute up-flow through media, filter may be returned to filter mode. Backwash shall be initiated by manually adjusting individual valves per operating instructions. Pump shall not restart until vacuum limit switch is manually reset.



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### D.11 BACKWASH SYSTEM

Backwash water shall transfer by hydraulic gradient from pool through sand to backwash chamber and then pumped out of tank to waste.

Backwash line will be brought to filter tank by Owner's GC Contractor. At disposal point into sewer or storm drain, Owner's GC Contractor shall provide a suitable air gap.

### D.12 AIR SCOUR BACKWASH

Air scour is independent air distribution grid. Air scour shall scrub media prior to backwash rinse. Air scour cleansing shall be at an air pressure of minimum 1 psi (gauge) and an air volume minimum of 2 s.c.f.m. per square foot of filter area.

A rotary blower, as shown on Drawings shall be supplied.

Starter, circuit power and electrical connections shall be provided by Owner's GC Contractor or its electrical subcontractor.

Piping system shall be designed to allow for isolation of tank to permit air scour cleansing prior to water flush. After air scour, dirt shall be flushed from media to waste at a flow rate of 7.5 GPM per square foot of filter area.

### D.13 PUMP AND MOTOR

Supply a single centrifugal pump directly connected to a TEFC premium efficiency electric motor and mounted within filter tank. Pump characteristics and performance data shall be as shown on Drawings.

On outdoor installations pump and motor shall be covered by a vented fiberglass enclosure.

### D.14 EFFLUENT QUALITY

Filter shall be capable of producing an effluent with a turbidity not to exceed 0.5 FTU measured with a Hach Model 1120A Turbidity Meter.

### D.15 ENGINEERING SERVICES

A qualified representative of filter installer or manufacturer shall visit work site after installation of filter has been completed, shall put filter into operation, and shall assist and instruct Owner's representative(s) in operation of filter.

### D.16 PERFORMANCE

Dimensions: 8'-0" X 19'-8"

Area: 130 SQ FT

Flow Rate: 14.29 GPM

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Filtration Rate: 1854

Backwash Rate: 975

### **E AUTOMATED CHEMICAL CONTROL SYSTEM WITH FLOW METER**

#### **E.1 GENERAL**

Water chemistry control system shall provide continuous monitoring and control of sanitizers, oxidizers, pH, ORP, free chlorine and variable frequency drive (for pump motor) as well as monitoring and control of total chlorine, combined chlorine, temperature, system flow rate, total dissolved solids (TDS), turbidity, chemical inventory levels, surge tank water level, system pressures, and water chemistry balance calculations.

Installation of system shall be per manufacturer's written installation instructions and approved submittals; no exceptions shall be allowed.

A factory trained/authorized representative shall provide training and follow-up visits to Owner.

Acceptable Manufacturer: "BECSys 5-F" BECS, Inc. or approved substitute.

#### **E.2 CERTIFICATIONS**

Automated chemical control system shall carry the following product certifications:

NSF/ANSI Standard 50

UL 61010-1

(CSA) C22.2 Number 61010-1

#### **E.3 STANDARD SENSORS:** The controller shall come with pH, ORP, temperature, flow (meter in gpm), and free chlorine, meeting the following requirements.

##### **E.3.1 Ph:** The controller shall provide a measurement of pH utilizing a sensor with the following characteristics:

0-14 sensing range

ABS body with ½" NPT process connection

Minimum of 32mm of inorganic electrolytic gel

A porous Teflon liquid junction

A silver/silver chloride reference element

Continuously monitor, display, and data log pH with 0.1 or 0.01 resolution

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- E.3.2 ORP: The controller shall provide a measurement of ORP by utilizing a sensor with the following characteristics:

-1000 to +1000mV sensing range

ABS body with ½" NPT process connection

Minimum of 32mm of inorganic electrolytic gel

A porous Teflon junction

A silver/silver chloride reference element

A solid platinum sensing element with a minimum of 1 square cm surface area

Continuously monitor, display, and data log ORP with 1mV resolution

- E.3.3 Temperature: The controller shall provide a measurement of water temperature by utilizing a sensor with the following characteristics:

32-212 degrees sensing range

2-wire resistive temperature detector

Continuously monitor, display, and data log temperature within 1 degree resolution

- E.3.4 Flow Sensor: The controller shall provide a measurement of pool circulation flow rate and volume by utilizing a flow sensor with the following characteristics:

0-8800 gpm measuring range

Paddle wheel flow sensor with a frequency output

25 foot cable

Saddle

Continuously monitor, display, and data log flow rate with 0.1gpm resolution

- E.3.5 Free Chlorine: The controller shall provide a measurement of free chlorine by utilizing an amperometric sensor with the following characteristics:

0.0 to 20.0 mg/l (ppm) measuring range with fully selectable scale

32-113 degree operating temperature range

A PVC body

Replaceable PTFE membrane and electrolyte

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Gold cathode and silver/silver chloride anode

Continuously monitor, display, and data log free chlorine with 0.1mg/l resolution

### E.4 USER INTERFACE

Standard display shall be a backlit transfective LCD with 14 line x 40 alpha/numeric graphical characters that shall continuously display information related to the following:

Installed sensor readings

Set points, with current control status

active alarms, including time activated

Smart menus w/ integrated on-screen help

Contrast adjustment of backlit LCD shall be provided through clearly marked keys on front panel without need for access to internal controller circuitry. After initial adjustment, controller shall monitor internal temperature and automatically adjust contrast to prevent LCD blackout in extreme ambient temperature conditions.

Standard user interface shall include single touch access to Set Points, Relay Modes, Calibrations, Menu Access, and Reset/Fail safes

### E.5 CONTROL FUNCTIONS

pH Control: controller shall continuously control pH. Chemical feed shall be configurable for feed-up, feed-down, or dual feed and either on/off or time-based proportional feed.

Sanitizer Control: controller shall continuously control sanitizer based upon ORP reading, amperometric sensor, or both with a bracketed control program. Chemical feed shall be configurable for either on/off or time-based proportional control.

Bracketed Sanitizer Control: with amperometric ppm sensor, controller shall be configurable for bracketed sanitizer control; bracketed control algorithm shall allow either ORP or ppm set point to be chosen as primary control point, while using other parameter to create a secondary boundary that shall be maintained in addition to primary control point.

Sanitizer Booster Feed: controller shall have a sanitizer booster program with selectable ORP and/or ppm set points with separate end points, allowing option of booster sanitizer to control a lower set point while primary system can recover.

LSI & RSI: controller shall compute Langelier Saturation Index and Ryznar Saturation Index based upon current inputs and Ca Hardness and Alkalinity entered by operator.

Flow Monitoring: controller shall continuously monitor, display, and data log system flow, maintaining a total flow volume. A low flow alarm shall be operator settable, which can be programmed to disable chemical feeds.

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Heater Control: control shall perform on/off control of a heater based upon an operator settable temperature set point. A fireman cycle feature shall turn off heater 0 to 60 minutes prior to recirculation pump shutdown.

Autofill: controller shall automatically control a water makeup relay to add makeup water to maintain pool level set point, based upon surge tanks level with an overfill delay feature

Energy Conservation Mode: controller shall have capability to disable mechanical and chemical functions during programmed conservation cycle. Energy Conservation Mode shall include ability to periodically monitor and satisfy operation requirements based upon a programmed time schedule.

VFD Interface with 4-20mA Signal: controller shall provide capability to interface to and control a recirculation pump equipped with a Variable Frequency Drive (VFD) through a 4-20mA signal. Controller programming shall allow operator to manage VFD entirely from water chemistry controller, by providing the following capabilities:

- Programmable set point specified as either flow rate, effluent filter pressure, or fixed setting

- Four programmable operator-triggered alternate profiles (Manual Turndowns)

- Four programmable scheduled alternate profiles (Scheduled Turndowns)

- Override setting for backwash

- Ramp up and ramp down settings

### E.6 CONTROL OUTPUTS

Controller shall come with a total of four integral line or dry contact 5A solid-state relay outputs capable of switching 3A under normal operating conditions.

Controller shall come with four separately isolated 4-20mA output signals with a load capacity of 440Ω per output channel. Each output signal shall be independently configurable for either of the following functions:

- Any enabled input, scaled between two operator-defined end points

- VFD control of recirculation pump

### E.7 SAFETY FEATURES

Controller shall have built-in limits to amount of time relay control output may be forced on (Manual Mode) in order to prevent control outputs from inadvertently being left on after service or diagnostics.

Controller shall have programmable high and low alarm settings for pH, ORP, PPM, temperature, low flow and no flow, chemical overfeed, turbidity, pressure and vacuum, surge tank levels, chemical inventory.

Controller shall have a programmable lockout of sanitizer feed upon high or low alarm.

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Controller shall activate a No Flow alarm when dedicated sample stream flow switch indicates there is insufficient flow through sample stream. This No Flow alarm shall lockout chemical feed control operations.

Controller shall trigger a Fail Safe alarm if a chemical feed relay remains on longer than programmable Feed Limit Timer. Chemical feeds shall automatically be disabled if corresponding reading goes into a Fail Safe alarm condition.

Controller shall have a dedicated Emergency Off button on front panel of system, which immediately halts chemical feeds and control outputs when pressed. This feature shall be password protected.

Controller shall have three security password levels: six for operators, two for managers, and one for distributor providing for a history of access identified by user.

### E.8 DATA LOGGING

Controller shall have 512K battery backed-up RAM for input level recording and events. Input levels shall be recorded for 10 to 56 days depending on sample rate.

Controller shall record and maintain latest 1100 events over a maximum of 14 days recording alarms, parameter changes, user login, and operational cycles related to control features.

### E.9 REMOTE COMMUNICATION, ACCESS AND ALARM NOTIFICATIONS

Controller shall come with a standard, integral 100BaseT Ethernet connection. controller shall be capable of providing Remote Access via PC with Ethernet connection and Alarm Notification via e-mail or text message via an Ethernet connection to internet

Controller manufacturer shall provide BECSys for Windows graphical remote operation software, for interactive connection to controller from a PC. Remote operation software shall be Vista-compatible, and have of the following operational modes:

Site Data Base – for organizing and accessing multiple controllers on site, or at multiple sites.

Graphical Operator's Console – to display current readings, set points, alarm points, Ryzner in an easy to read graphical mode.

Data Log Graphing – to review data logs with time-synchronized event data; data log traces shall be configurable, with color and line style selectable by operator.

Full Menu Tree – system parameters accessible through a full menu tree interface.

Auto-Polling – to allow automatic download of data logs from controllers in site database.

### E.10 INTEGRATED FLOW METER

Flow meter shall be integrated with specified chemical controller and variable frequency drive (specified within bid documents) to provide flow control from chemical controller to VFD.

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Acceptable Manufacturer: Signet #3-2551-P1-11. Due to specific communication requirements of controller, no other flow meter will be accepted as equal.

Flow meter sensor body shall be of polypropylene construction while required pipe saddle shall be of PVC Schedule 80 construction. A grounding ring shall be incorporated into sensor body.

Flow meter shall have a 4 to 20mA frequency output, and shall be wired directly into chemical controller.

Flow velocity measurement shall be compensated for temperature via an integrated temp sensor.

### E.11 WARRANTY, START-UP AND MANUALS

Controller shall be covered by a standard manufacturer's 5 year warranty.

Standard sensors shall be covered by a standard manufacturer's 2 year warranty.

Optional sensors and flow cell components shall be covered by a standard manufacturer's 1 year warranty.

Control system shall be provided with on-site operator training, and 1 year on-site warranty service performed by a representative trained and authorized by controller manufacturer.

### E.12 PH BUFFERING SYSTEM

pH buffering system specified shall be National Sanitation Foundation (NSF) listed and shall use carbon dioxide as a method to lower water's pH. Method of delivery shall operate under pressurized conditions through a porous diffuser.

Acceptable Manufacturer: "Model # BECSys CO2 (Part #2100298-D-1)" by BECS Technology or approved substitute.

General:

CO2 feeder shall operate through specified automated chemical controller, or can be operated separately if needed.

Feeder shall have an adjustable flow control of 4-30 SCFH, allowing CO2 gas to flow through a 110VAC solenoid valve.

Method of delivery for CO2 gas shall be through a porous diffuser assembly attached to a check valve containing a stainless steel ball to prevent backflow of water to system.

Tubing, tubing connections and relative fittings shall be 3/8" in diameter.

CO2 control system shall be provided with a one (1) manufacturer's warranty.

## F. UV TREATMENT AND DISINFECTION

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Ultraviolet Disinfection (UV) equipment shall operate within UVC electromagnetic spectrum, emitting wavelengths in range of 200nm to 400nm. This required wavelength shall provide constant disinfection/inactivation of bacteria, algae, molds, viruses and destruction of chloramines. UV systems shall be certified by NSF International to ANSI/NSF Standard 50 for pool/spa applications.

UV system shall be provided in a complete package to include 316L stainless steel chamber, Spectra Control System, medium pressure UVC bulbs, strainer basket, automatic wiper system, power control, and project commissioning by a certified factory technician.

UV system shall be sized to emit a minimum dose of 60mj/cm<sup>2</sup> for indoor applications with a maximum flow rate of 3350gpm, within a 10" schedule 80 PVC pipe.

UV chamber shall be constructed of 316L stainless steel to prevent corrosion within harsh pool environment. UV chamber shall come complete with a UV intensity monitor with built-in alarm, UV temperature control, an annealed quartz sleeve with "O" ring seals for water tightness. UV chamber shall also be provided with ANSI flanges and ports or vents shall be threaded NPT.

Lamp unit shall provide a dose not less than 60mj/cm<sup>2</sup> at end of lamp life based on treating 100% of filtration flow rate, side stream treatment will not be allowed.

An automatic cleaning system shall be provided for cleaning of quartz sleeve and UV monitor probe. System shall travel length of quartz sleeve twice per desired cleaning cycle. Wiper cycle shall be user selectable and adjustable within a range of 15 minutes to 24 hours depending on anticipated application and deposit build-up.

Control system shall be located within a NEMA 12 rated cabinet and shall be powered with a SPECTRA microprocessor control unit

Acceptable Manufacturer, Control Cabinet: Engineered Treatment System SPECTRA Touch control unit or approved substitute.

Systems shall be epoxy coated NEMA 12 rated cabinet. If mounted outdoors they shall be NEMA4X with an integral A/C unit to protect components from environment. Three levels of operation shall be provided to meet needs of operator and pool environment: Simple Control (start, stop and reset), Full Parameter Display, and Customized Operator Configuration. Modes of operation shall be password protected to secure system critical setup functions. Touch Control system shall have clearly identifiable start, stop, and reset icons (suitable for gloved operation) with Running and Fault LCD indicators.

Touch screen shall display a minimum of the following: Ultraviolet dose (derived from flow and intensity inputs), Ultraviolet intensity (as a % and mw/cm<sup>2</sup>), Lamp Current, Flow rate (accepts signal from flow meter – displayed as gallons per minute), Chamber temperature (displayed as deg. F), Operation hour meter, System spares listing, Lamp fault, low Ultraviolet & temperature alarm, Ground fault trip, Wiper fault. alarm functions shall have simple text message display to assist in fault finding.

Touch Control system shall have a minimum of the following system interface control: Remote operation, Process interrupt features (from valves, flow meters), Low UV dose (configurable to shutdown or alarm only), Flow meter input, Auto-Restrike, Half to full power Ultraviolet setting with 24 hour/7 day settable timer. Dose Pacing interface.



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Touch Control system shall have built in data-logging capabilities to record the following information: Ultraviolet intensity required, Ultraviolet intensity measured, Lamp current, Chamber temperature, Flow rate (if flow meter is connected), Time and date stamp, alarms generated.

Touch Control system shall be able to be interfaced with a Chemistry Controller that can measure Total or Combined Chloramines in order to maintain proper dosage as well as life of lamp(s).

Touch Control System shall be capable of operating through Ethernet or Wi Fi.

Touch Control System shall be capable of interfacing with a SCADA system including both Profibus and Modbus.

A factory trained and certified technician shall provide start-up and calibration of unit as well as training of designated facility employees.

Warrant UV chamber and control panel for a period of 5 years. Medium pressure UV bulbs shall be warranted for a period of 4,000 hours. Intermittently operated bulbs shall be replaced free of charge should failure occur prior to 3,000 hours and replacement shall be prorated between 3,000 and 4,000 hours.

Acceptable Manufacturer, Ultra Violet Disinfection System: "Model # ECF-230-12v" by Engineered Treatment Systems or approved substitute.

Voltage shall be noted as 460/480v and shall be confirmed prior to order.

### **G. CALCIUM HYPOCHLORITE CHLORINATION SYSTEM**

Chlorination specified shall be National Sanitation Foundation (NSF) listed and shall use calcium hypochlorite tablets for its chlorination source. Method of delivery shall operate under non-pressurized conditions. Chlorinator shall be of design and operation so that its use is of high efficiency implementation of a PLC based control panel.

Acceptable Manufacturer: "Model # P500" by Lonza Corporation (formerly Arch Chemicals) or approved substitute.

#### **G.1 PLC CONTROL BOX**

PLC based control panel shall incorporate a touch screen panel with security code access and shall be integrated with an automated chemical controller or can control functions of chlorinator on a standalone basis.

Control panel shall control feed functions of solenoid valves, on/off control of booster pump, field adjustable wash down settings, alarm display, and calculation of CSI (Calcium Saturation Index).

Control panel shall contain a USB port to enable software updates and provide transferring of data to a computer.

#### **G.2 CHLORINATOR**

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Chlorinator shall be of non-pressurized manufacture and shall have a lid that contains a lid safety switch. lid safety switch shall prevent accidental spray of user when lid is opened or removed.

Chlorinator shall be able to feed 15-500 pounds per day of tableted calcium hypochlorite, with ability to treat a maximum of 1.6 million gallons of stabilized water with a single unit.

Chlorinator shall have a 300 pound capacity of Pulsar Briquettes.

Chlorinator shall use spray technology to dissolve briquettes into a chlorinated solution which shall be returned to pool through use of a 1-1/2" venturi located on pressure side of a 1HP booster pump.

A backflow check valve and electronic high level sensor shall be provided to prevent accidental overflow of water. In event of booster pump being off, back flow check valve shall prevent water from entering holding tank. electronic high level sensor shall activate if water level in tank reaches a level higher than normal.

Chlorinator shall have a secondary solenoid valve to provide periodic, field-settable cleaning of discharge holding tank and its internal components.

Briquette grid screen shall be removable for maintenance purposes and shall fit into a molded area on underside of chlorinator lid should it require cleaning.

Chlorinator and its components shall be provided with a one (1) year manufacturer warranty and repair shall be performed by a factory trained and certified technician during that time.

## **H. CENTRIFUGAL PUMP WITH FIBERGLASS HAIR AND LINT STRAINER**

### **H.1 CENTRIFUGAL PUMP**

Determine correct horsepower, rpm, and voltage. Motors shall be flooded suction at 1750rpm with a varying specified TDH(s). Pump motor shall include use of a flow meter, described below to be able to respond to specified variable frequency drive.

Acceptable Manufacturer, Pump and Motors: "Model number 530SC series" by ITT Marlow or approved substitute.

Motors shall be capable of continuously running without overloading at point on characteristic curve of pump without overload or harm.

Pumps shall be certified by National Sanitation Foundation and bear certification mark. Pump casings shall be cast iron fitted with a replaceable bronze wear ring. Pump impellers shall be enclosed type of cast bronze, statically and dynamically balanced, and trimmed for specific design conditions. Pump motors shall be totally enclosed, fan cooled (TEFC) and premium efficiency of horsepower and speed specified. A pump requiring larger horsepower will not be accepted.

Pump motors shall be provided with a fusion bonded epoxy coating on wetted parts for corrosion protection. Thickness shall be 8 to 12 mils. Coating shall be SmoothKote 134 or approved substitute.

Each pump motor shall be equipped with a variable frequency drive and flow meter.

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Pumping units shall be mounted and secured in a serviceable manner.

### H.2 HAIR AND LINT STRAINERS

Strainers shall consist of a strainer body, a strainer lid and a strainer basket. strainers shall be provided with one influent PVC flange and one effluent PVC flange for connections. Hair and lint strainers shall be fabricated of fiberglass reinforced plastic (FRP). Material used in manufacturing FRP components shall be food grade Isophthalic Resin and E Glass. Strainer shall be designed for a maximum operating pressure of 30PSIG and a normal vacuum service of 20" of mercury. Each strainer shall come with a molded FRP cover plate or lid with clear viewing window, gasket seal, hinged sealing hardware, stainless steel/FRP strainer basket, and drain and vent plugs.

FRP strainer body shall come complete with influent and effluent PVC vanstone flange connections. Strainer lids shall have a clear viewing window for internal debris loading inspection. PVC flanges, branch saddles, body flange, body bottom, and viewing window shall be chemically bonded to FRP body and lid utilizing a structural adhesive that creates a joint that exceeds mechanical properties of PVC and viewing window.

Strainer baskets shall consist of FRP top and bottom caps and a 16-gauge stainless steel basket. Both FRP caps shall be manufactured using closed cavity bag molding process. Fastening of baskets to top and bottom cap shall be free of welded connections through use of two threaded stainless steel connecting rods. Strainer body and strainer baskets shall have an integrally molded location block and recess for self-alignment during installation.

Strainer baskets shall be pleated with 1/8" perforated holes on staggered centers to maximize open area. Strainer basket shall be supported with FRP gussets attached to stainless steel connecting rods.

Strainer systems shall have 468 square inches of open area with open area ratio of 4.14 to 1 to influent flanged connection. strainer shall provide 0-psi head loss when operating at a flow rate of 1600 US GPM with a clean strainer basket.

Acceptable Manufacturer: Nemato Corporation or approved substitute.

### H.3 RECIRCULATION PUMPS (2 REQUIRED).

Recirculation system shall be two (2) pumps, 20HP motors, 480v, 3-phase operating at 1750rpm with a 60' TDH. Pumps shall be capable of 927gpm with a minimum efficiency of 81.28%.

Acceptable Manufacturer: Paco or approved substitute.

Each pump/motor shall incorporate use of two (2) MCCVFD EF-20-1-460 or approved substitute variable frequency drives (1 per motor), and two (2) Signet #3-2551-P1-11 or approved substitute flow meters with appropriate saddles.

Wire flow meter directly into VFD for control of flow of water and shall also be integrated with automated chemical controller.

### H.4 WATER FEATURE PUMP #1 (1 REQUIRED)

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Feature pump system shall be 15HP motor, 480v, 3-phase operating at 1750rpm with a 50' TDH. pumps shall be capable of 800gpm with a minimum efficiency of 81.19%.

Acceptable Manufacturer: ITT Marlow 530SC 5-9 or approved substitute.

Hair and lint strainer shall have 10" influent and 6" effluent connections and shall be provided with an extra strainer basket.

Acceptable Manufacturer: Model # NSS-16-030-1006 or approved substitute.

Pump motor shall incorporate use of one (1) MCCVFD EF-15-1-460 or approved substitute variable frequency drive and one (1) Signet #3-2551-P1-11 or approved substitute flow meter with appropriate saddle.

Wire flow meter directly into VFD for control of flow of water.

### H.5 WATER FEATURE PUMP #2 (1 REQUIRED)

Feature pump system shall be 15HP motor, 480v, 3-phase operating at 1750rpm with a 50' TDH. pumps shall be capable of 721gpm with a minimum efficiency of 82.47%.

Acceptable Manufacturer: ITT Marlow 530SC 4-9 or approved substitute.

Hair and lint strainer shall have 10" influent and 5" effluent connections and shall be provided with an extra strainer basket.

Acceptable Manufacturer: Model # NSS-16-030-1005 or approved substitute.

Pump motor shall incorporate use of one (1) MCCVFD EF-15-1-460 or approved substitute variable frequency drive and one (1) Signet #3-2551-P1-11 flow meter with appropriate saddle.

Wire flow meter directly into VFD for control of flow of water.

### H.6 SLIDE PUMP #1

Slide pump system shall be 15HP motor, 480v, 3-phase operating at 1750rpm with a 50' TDH. pump shall be capable of 800gpm with a minimum efficiency of 81.19%.

Acceptable Manufacturer: ITT Marlow 530SC 5-9 or approved substitute.

Hair and lint strainer shall have 10" influent and 6" effluent connections and shall be provided with an extra strainer basket.

Acceptable Manufacturer: Model # NSS-16-030-1006 or approved substitute.

Pump motor shall incorporate use of one (1) MCCVFD EF-15-1-460 or approved substitute variable frequency drive and one (1) Signet #3-2551-P1-11 or approved substitute flow meter with appropriate saddle.

Wire flow meter directly into VFD for control of flow of water.

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### H.7 SLIDE PUMP #2

Slide pump system shall be 20HP motor, 480v, 3-phase operating at 1750rpm with a 65' TDH. Pump shall be capable of 900gpm with a minimum efficiency of 82.55%.

Acceptable Manufacturer: ITT Marlow 530SC 5-9 or approved substitute.

Hair and lint strainer shall have 10" influent and 6" effluent connections and shall be provided with an extra strainer basket.

Acceptable Manufacturer: Model # NSS-16-030-1006 or approved substitute.

Pump motor shall incorporate use of one (1) MCCVFD EF-20-1-460 or approved substitute variable frequency drive and one (1) Signet #3-2551-P1-11 or approved substitute flow meter with appropriate saddle.

Wire flow meter directly into VFD for control of flow of water.

## I DECK EQUIPMENT

Furnish related accessories specified herein. Installation shall be by Owner's GC Contractor or its subcontractor unless otherwise indicated by Project Drawings.

Deck equipment shall be guaranteed for a period of one year against defects in workmanship or material.

### I.1 CALIFORNIA STYLE GRAB RAILS

California Style grab rails shall be fabricated from 1.90" OD x.083" wall, Type 304 stainless steel tubing. Top of rails shall be 33" above deck. Exposed surfaces shall be polished to a finish equal to Paddock buff finish. (3 sets) required. Provide deck anchors and escutcheons.

Acceptable Manufacturer: Paddock Model 4497-c, Paddock 4801, and Paddock 4837 or approved substitute.

### I.2 5" RECESSED STEPS

Recessed steps shall be fabricated from 14 gauge, Type 316L stainless steel. exposed welds shall be grounded. A non-skid tread shall be part of in foot contact area on lower surface. Nine (9) required.

Acceptable Manufacturer: Paddock Model 4501-3 or approved substitute.

### I.3 Not used.

### I.4 STAINLESS STEEL LADDERS

Ladder rails shall be fabricated of 1.90" OD x.083" wall, Type 304 stainless steel tubing. Treads shall have a deeply formed slip resistant surface. End of each tread shall bolt into rail with one 3/8" upset head 18-8 bolt. Tread shall be at least 4 inches in width. Ladder rails shall be of progressive

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bend type and shall be spaced 19 inches apart center to center. There shall be a rubber bumper at lower end of each ladder rail so that metal rail shall not come in contact with pool wall. Each rail shall contain a cross brace for additional stability. Cross brace shall be Type 304 stainless steel. Provide suitable anchors and escutcheons.

Acceptable Manufacturer: Paddock Model: 4540, 4801, 4837 or approved substitute.

### I.5 STAINLESS STEEL HANDRAILS

Stair handrails shall be of stainless steel construction and furnished with necessary anchors. Handrails shall be fabricated from 1.90" OD X.083" wall, Type 304 stainless steel tubing polished to a Paddock buff finish.

Custom handrails, (7) required, with dimensions shown on Drawings. Provide suitable anchors with escutcheons with each handrail. Custom rails could require more than two anchors and escutcheons. Note (2) two ramp rails in zero entry section of pool have multiple posts.

Acceptable Manufacturer: Paddock Model 4718, 4801, 4837 or approved substitute.

## J SAFETY EQUIPMENT

### J.1 6' PORTABLE LIFEGUARD CHAIR,

Lifeguard chair shall be portable and shall have a molded fiberglass seat installed 6'1½" above deck. Frame of chair shall be welded and be fabricated from Type 304 stainless steel tubing with a Paddock buff finish.

Frames, which are bolted together, shall not be acceptable.

Framework shall move across deck on 2" x 4" diameter polyolefin wheels installed on ¾" stainless steel axle assemblies. Platform rails shall be fabricated entirely of stainless steel. Surface of H.D.P.E. platform shall be serrated to form a non-skid surface. Top surface sections shall be 5/8" wide and space between extruded sections shall not exceed 1/8". A 15-degree sloping ladder shall reach platform, which is 19" wide.

Bottom of ladder and back rails shall be fitted with white rubber bumpers, which shall bear on deck. Ladder treads shall be stainless steel 19" long x 4" wide with a slip-resistant surface. Lifeguard chair shall be supplied with an umbrella socket fabricated of Type 304 stainless steel integral to stainless steel framework on one side of stand behind seat. (5) required.

Acceptable Manufacturer: Paddock Model 4707 or approved substitute.

## K MAINTENANCE EQUIPMENT

K.1 Vacuum Hose Service King, 1 ½" Hose X 75' Long; Paddock Model PLF 402198 or approved substitute, (1) required

K.2 Vacuum Head, 22" Commercial Pro Vac: Paddock Model RP-222 or approved substitute, (1) required

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- K.3 2" MIP X 1 ½" Hose Adaptor; Paddock Model SP-1082-Z-3 or approved substitute, (1) required
- K.4 Portable Pump & Motor for Vacuum Cleaner (Electric) 1 ½ HP, 115 Volt, 1 Phase; Paddock Model 3180-E or approved substitute to, (1) required
- K.5 Wall Brush and Holder: Paddock Model 3330 or approved substitute to, (1) required
- K.6 Skimmer Head: Paddock Model 3348 or approved substitute to, (1) required
- K.7 Telescopic Handle Adjustment 8' to 16': Paddock Model 3367 or approved substitute to, (1) required

## **L MISCELLANEOUS EQUIPMENT**

- L.1 Main Paddock 24"x24"x24" Stainless Steel Entrapment Safe Main Drain Sump w/VGB Certified Flat Main Drain Cover, (12) required
- L.2 Jet Wash Fittings, (12) required
- L.3 8" Stainless Steel Perimeter Overflow Gutter Converter, (4) required
- L.4 6" Stainless Steel Return Converter, (2) required
- L.5 10" Stainless Steel Return Converter and Current Walk Weir Trough, (2) required
- L.6 4" Stainless Steel Return Converter, (2) required
- L.7 Commercial Hydrostatic Relief Valve, Model 8703-S or approved substitute, (12) required
- L.8 Liquid Level Sensor for vacuum sand filter, (1) required
- L.9 Signet Flow Sensors w/ Clamp Tees P51530-P1 or approved substitute (6) required
- L.10 Signet Flow Sensors w/ Clamp Tees P51530-P2 or approved substitute (1) required
- L.11 Digital Flow Meter Signet, Model P-8150-P1 or approved substitute, (1) required
- L.12 Kersplash clear climbing wall or approved substitute 4' wide x 10' tall sections (3) sections required
- L.13 Gator floatable tethered to pool floor (1) required
- L.14 Octopus floatable tethered to pool floor (1) required
- L.15 Lilly Pads floatable tethered to pool floor ( ) required
- L.16 Frog Slide (1) required
- L.17 Aqua Dome (1) required

## SWIMMING POOL EQUIPMENT

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- L.18 Shaded Water Structure (1) required
- L.19 Rainbow Arches (1 set) required
- L.20 Triple Feature (1) required
- L.21 5- dumping buckets (1) required
- L.22 Casket Ball Goal (1) required
- L.23 LED Bubblers (4) required
- L.24 Flush Mount Donut Spray (2) required
- L.25 Flush Mount Water Jellys (3) required
- L.26 Flush Mount Cylinder Spray (1) required
- L.27 Valved Pits in Pool Deck (2) required
- L.28 Automatic water level control (1) required 6610 Paddock or approved substitute
- L.29 WIKA 2.5" pressure gauge (4) required
- L.30 WIKA 2.5" vacuum gauge (4) required
- L.31 Current Systems Riverflow Propulsion System or approved substitute.; 10 Hp Pump, with VFD NEMA 12 W/Remote Programmable Display (2) required
- L.32 Current Systems Riverflow or approved substitute. 24" x 20" wall suction ports (4) required
- L.33 Faux Rock Pump Covers or approved substitute.(1) required
- L.34 LED 500 Equivalent 12V Pool Lights (17) required
- L.35 Backwash De-Chlorination Solution (liquid or tablets) and Device
- L.36 Underwater Speaker System – AQP510 Clark Synthesis (6) required

## **M FIBERGLASS WATERSLIDES**

### PART 1 GENERAL

#### **1.1 SECTION INCLUDES**

1.1.A. Fiberglass Waterslides

#### **1.2 REFERENCES**

## SWIMMING POOL EQUIPMENT



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- 1.2.A. AS F2376-06 – Standard Practice for Classification, Design, Manufacture, Construction, and Operation of Water Slide Systems.
- 1.2.B. AS F770 – Practice for Operation Procedures for Amusement Rides and Devices.
- 1.2.C. AS F846 – Guide for Testing Performance of Amusement Rides and Devices.
- 1.2.D. AS A 36/A 36M – Standard Specification for Carbon Structural Steel; 1997a.
- 1.2.E. AS A 53/A 53M – Standard Specification for Pipe, Steel Black and Hot-Dipped, Zinc-Coated. Welded and Seamless; 1999b.
- 1.2.F. AS A 325 – Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 1997.
- 1.2.G. AS A 500 – Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 1999.
- 1.2.H. AWS A2.4 – Standard Symbols for Welding, Brazing and Nondestructive Examination; American Welding Society; 1998.
- 1.2.I. AWS D1.1 – Structural Welding Code – Steel; American Welding Society; 2000.

### 1.3 SUMMARY

- 1.3.A. Furnish labor, materials, equipment and services necessary to accomplish the following:
  - (1) Construct a new fiberglass flume waterslide system consisting of (1) open flume body slide, (1) closed flume body slide and (1) combination body/speed slide originating from a 24 foot high platform elevation. Slide structure shall include tower, stairway, flume supports, AquaBlue International Solar AquaFX Special Effects™ or approved substitute and AquaFX Special Effects™ Interactive or approved substitute and slide related ancillary equipment.

### 1.4 SYSTEM DESCRIPTION

- 1.4.A. Work Included:
  - 1.4.A.1. Furnish and install fiberglass waterslides as indicated on Drawings, specified herein, and as necessary for proper completion including, but not necessarily limited to the following:
    - 1.4.A.1.a. Fiberglass flume components.
    - 1.4.A.1.b. Flume structural support systems except footings as indicated.
    - 1.4.A.1.c. Tower, platforms, stairways, and related supports.
    - 1.4.A.1.d. Installation, ride testing, and certification.
    - 1.4.A.1.e. Labor, material, and equipment to complete installation.
    - 1.4.A.1.f. Operations and Maintenance manuals.
  - 1.4.A.2. Concrete foundation design:
    - 1.4.A.2.a. Concrete foundation design shall be completed by waterslide manufacturer.
    - 1.4.A.2.b. Slide structural steel supports and fiberglass shall be installed by slide manufacturer or by subcontractor under supervision of slide manufacturer's representative.
- 1.4.B. Related Work Specified Elsewhere:
  - 1.4.B.1. Electrical works, buildings, and modifications, if to pool and/or site.

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1.4.B.2. Construction of concrete waterslide foundations.

1.4.B.3. Supply and installation of mechanical equipment and related piping complete up to waterslide entry sections.

### 1.5 SUBMITTALS

1.5.A. Shop drawings:

1.5.A.1. Within thirty (30) days after award of contract, and before materials are delivered to job site, submit the following Drawings for approval:

1.5.A.1.a. Slide path design with X, Y, Z (elevation) coordinates.

1.5.A.1.b. Flume component details, including interface at slide entry and exit.

1.5.A.1.c. Flume structural support system details.

1.5.A.1.d. Foundation plans and details as required for flume structural support.

1.5.A.1.e. Schematic for waterslide and pool wall interface.

1.5.A.2. Show welds, both shop and field by currently recommended symbols of American Welding Society.

1.5.B. Shop drawings shall be certified and sealed by a Professional Engineer registered in State where waterslide is being constructed.

1.5.C. Selection Samples: Color charts representing manufacturer's full range of available colors.

1.5.D. Platform Cover: Manufacturer's descriptive literature for specified systems, including components.

1.5.E. Shop Drawing: Indicate layout heights, component connection details, and details of interface with adjacent construction.

1.5.F. Selection Samples: Color chips representing manufacturer's full range of available colors.

1.5.G. Safety Signage: Manufacturer shall provide four waterslide safety rules signs in keeping with World Waterpark Association Guidelines and AS standards for waterslide design and manufacture.

1.5.H. Operation and Maintenance Data: manufacturer shall supply a complete operating and maintenance manual.

1.5.I. Certificates: Certify that products of this section meet or exceed specified requirements.

1.5.I.1. Certify to Owner that depth, width, and length of receiving pool is acceptable and compatible with safety standards for manufacturer's designed product.

1.5.I.2. Certify in writing on shop drawings that no fillers of kind will be used to manufacture fiberglass flumes.

1.5.I.3. Certify to Owner that specified minimum width and length of fiberglass flumes have been satisfied.

### 1.6 QUALITY ASSURANCE

1.6.A. Manufacturer Qualifications:

1.6.A.1. Supplier shall have not less than five (5) years' experience in design and fabrication of similar fiberglass waterslide systems. supplier shall demonstrate their specific experience and competency in manufacturing and installation of waterslides as required by Architect/engineer and Owner.

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1.6.A.2. Supplier shall submit evidence of written Quality Assurance Program.

1.6.B. Installer Qualifications:

1.6.B.1. Company specializing in performing work of this section with minimum five (5) years of experience or company having been trained and certified in performing work of this section by manufacturer of products of this Section.

1.6.B.2. Waterslide installation supervisor shall not have less than five (5) years' experience in installation of fiberglass waterslides or be certified in performing work of this section by manufacturer of products of this Section.

1.6.B.3. Supplier's Field Representative: Individual specializing in start-up and training of equipment specified in this section. Supplier's Field Representative shall be responsible for ride start-up and testing and instruction of Owners personnel in operation of this equipment to their satisfaction immediately after project substantial completion.

1.6.C. In addition to complying with applicable codes and regulations, comply with pertinent recommendations contained in:

1.6.C.1. "WWA Considerations for Operation Safety", 1989 and update, as published by World Waterpark Association.

1.6.C.2. "Specifications for Design, Fabrication and Erection of Structural Steel for Buildings" of American Institute of Steel Construction.

1.6.C.3. "Code for Welding in Building Construction" of American Welding Society.

1.6.C.4. "Specifications for Architecturally Exposed Structural Steel" of American Institute of Steel Construction.

1.6.C.5. "Manual of Standard Practice", Publication CRSI (DA4) of Concrete Reinforcing Steel Institute.

1.6.C.6. "Structural Concrete for Buildings", Publication ACI 301 of American Concrete Institute.

1.6.C.7. "Building Code Requirements for Reinforced Concrete and Commentary", Publication ACI 316 of American Concrete Institute.

1.6.C.8. AS requirements for steel components, of American society of Testing Materials.

1.6.C.9. New Jersey Administrative Code N.J.A.C. 5:14A (2012)

1.6.D. Where provisions of pertinent codes and standards conflict with this specification, more stringent shall govern.

1.6.E. Design structures under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at place where Project is located.

1.6.F. Products Requiring Electrical Connection: Listed and classified by UL as suitable for purpose specified and indicated.

## 1.7 DELIVERY, STORAGE, AND PROTECTION

1.7.A. Store materials under cover and elevated above grade.

## 1.8 WARRANTY

1.8.A. Work of this section shall be warranted against defects of material and/or application for a period of one (1) year from Substantial Completion. Failures that may occur within this warranty period, due to defective installation and/or materials, shall upon written

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notification of such failure be immediately repaired or replaced in accordance with manufacturer warranty.

## PART 2 PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURER

- 2.1.A. AquaBlue International, LLC.; Tel (800) 270-1029, extension 101;  
dhoy@aquablueintl.com; www.aquablueslides.com or approved substitute.

### 2.2 WATER SLIDES

#### 2.2.A. Fiberglass Laminate Materials:

##### 2.2.A.1. Gelcoat:

- 2.2.A.1.a. Interior and exterior gelcoat shall be high quality isophthalic polyester with U.V. inhibitors, 18 to 20 mils thick on interior or ride surface, 20 mils thick on exterior surface.

- 2.2.A.1.b. Translucent fiberglass shall also have exterior U.V. protection clear coat.

##### 2.2.A.2. Resins:

- 2.2.A.2.a. Thixotropic promoted low profile polyester resin with alternate layers of continuous roving chop and 18 ounces woven roving.

- 2.2.A.2.b. No fillers shall be allowed in fiberglass laminate materials.

##### 2.2.A.3. Structure:

- 2.2.A.3.a. Fiberglass lamination with sandwich panel centerline reinforcement.

- 2.2.A.3.b. Standard flume section shall be 3/16 inch thick, minimum weight 20 ounces per square foot.

- 2.2.A.3.c. Flanges shall be minimum 3/8 inch thick and extend at least 4-3/4 inches from slide surface, "L" style.

- 2.2.A.3.d. No fillers to be used anywhere in process.

#### 2.2.B. Joints, Connections, and Seams:

- 2.2.B.1. Flume to flume joints shall be fastened with 3/8 inch stainless steel bolts, washers (2 per bolt), lock washer, and nuts.

- 2.2.B.2. Flume to support system connections shall be made with stainless steel hardware.

- 2.2.B.3. connections shall be external to flume interior. No connection, hardware, or penetration shall be made to flume interior.

- 2.2.B.4. Fiberglass joint connections shall be made using waterproof non-shrink calking with suitable adhesion to fiberglass. Silicone sealants are not permitted. Calking shall be provided by waterslide manufacturer.

- 2.2.B.5. Fiberglassing over seams within riding surface is not permitted. Sanding within slide surface should be minimized to maintain adequate gel coat thickness and gloss. sanded areas shall be polished to a high gloss until undetectable.

#### 2.2.C. Color:

- 2.2.C.1. Color shall be integral to fiberglass.

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2.2.C.2. Fiberglass color shall be selected by Customer from manufacturer's color chart.

2.2.C.3. Colors may be different inside and outside of flumes if desired.

2.2.C.4. Non-standard colors shall be made available, if desired, for an additional charge.

### 2.2.D. Required Components:

2.2.D.1. Entry section shall be pre-plumbed for water injection downstream of rider entry point. Rider entry area shall be a non-skid surface.

2.2.D.2. Risers or built-up sections are required on open flume slides for ride safety and to control water loss and shall be provided on curved flume sections.

2.2.D.3. Risers shall be integral to flume: bolt-on sections will not be acceptable for part of this waterslide system.

2.2.D.4. Riser ends to provide a smooth transition at beginning and ending of each riser shall be provided integral to flume section.

2.2.D.5. Pool entry sections shall provide a smooth finished end piece, which provides safe pool entry and masks hardware or connection to pool.

2.2.D.6. entry section shall be designed to eliminate possible entrapment hazards under cantilevered portion of slide over pool water.

2.2.D.7. Factory pre-drilling of sections.

2.2.D.8. Waterproof joint sealant as described.

2.2.D.9. Stainless steel assembly hardware as described.

### 2.2.E. Flume Structural Support System:

2.2.E.1. Structural steel support columns, arms, and cross bracing as required by design to support base bid flumes and connection to base bid columns required for future or alternate flumes shall be supplied in base bid. steel components shall be designed for bolt-up installation.

2.2.E.2. Connection hardware and yokes as required by design. Connecting hardware to attach slide to structural components shall be stainless steel, nuts, bolts, and washers. Yokes for connecting flumes to structural elements shall be 1/4 inch thick galvanized steel angle made to match exterior flume flange as a minimum standard.

2.2.E.3. Slide manufacturer shall design concrete footings, foundations and columns as required for waterslide design. Slide manufacturer shall submit a foundation layout plan showing quantities, dimensions and typical details with bids.

### 2.2.F. Column Support System:

2.2.F.1. A single or multiple column system shall be used.

### 2.2.G. Waterslide Tower and Stairway System:

2.2.G.1. Configuration shall be as shown on Drawings.

2.2.G.2. Tower columns, cross-bracing, tension rods, stairway supports, stairway sections and guardrails shall be hot-dipped galvanized and designed and prefabricated for bolt-up installation.

2.2.G.3. Manufacturer shall provide a hinged gate at base of waterslide tower.

2.2.G.4. Prefabricated stairway sections shall include stringers, constructed of hot-dip galvanized steel.

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### 2.2.G.5. Guardrail system:

2.2.G.5.a. Guardrail system shall be a minimum of 42 inches high at point.

2.2.G.5.b. Guardrails and balustrades shall be hot-dip galvanized steel.

2.2.G.5.c. Handrails shall be hot-dip galvanized steel.

### 2.2.H. Stair and Deck Treads shall be AquaBlue International AquaGRATE® or approved substitute pultruded pedestrian fiberglass grating conforming to the following:

2.2.H.1. Stair and Deck Treads shall be high strength and high stiffness pultruded elements having a maximum of 70% and a minimum of 60% glass content (by weight) of continuous roving and continuous strand mat fiberglass reinforcements.

2.2.H.2. Stair Treads shall have an integral closed nosing on forward edge of each stair tread.

2.2.H.3. Finished surface of Stair and Deck Treads shall be provided with a surfacing veil to provide a resin rich surface which improves corrosion resistance and resistance to ultraviolet degradation.

2.2.H.4. Bearing bars shall be interlocked and epoxied in place with a two piece cross rod system to provide a mechanical and chemical lock. Cross-rods should be below walking surface of Stair and Deck Treads.

2.2.H.5. Stair and Deck Treads shall be provided with a silica sand grit bonded and baked to top surface of finished grating providing for a non-slip surfacing.

2.2.H.6. Stair and Deck Treads shall be fire retardant with a tested flame spread rating of 25 or less when tested in accordance with AS E84.

2.2.H.7. Color shall be standard Light Gray.

### 2.2.I. Structural Systems:

2.2.I.1. Structural supports, tower and stairway systems shall be designed to safely support these facilities given the following design criteria:

2.2.I.1.a. Seismic zone as required for location of project.

2.2.I.1.b. Wind speed of 100 miles per hour.

2.2.I.1.c. Snow load as required where slide is being installed.

2.2.I.1.d. Live load of 100 pounds per square foot.

2.2.I.1.e. Other criteria as may be required by local regulatory authorities.

2.2.I.2. Pipe Columns: pipe columns shall meet requirements of AS A53, seamless Grade B, minimum  $F_y = 35,000$  psi.

2.2.I.3. Tubing: rectangular or square tubing shall meet requirements of AS A500, Grade B.

2.2.I.4. Bolts and Nuts:

2.2.I.4.a. High strength bolts shall meet requirements of AS A325.

2.2.I.4.b. Use high strength friction bolts for bolted connections unless otherwise indicated.

2.2.I.4.c. Make bolt holes 1/8 inch larger than nominal bolt diameter.

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2.2.I.4.d. Anchor Bolts: anchor bolts shall be hot-dip galvanized and shall meet requirements of AS A36.

### 2.2.I.5. Color

2.2.I.5.a. Waterslide steel support structure to be hot-dip galvanized standard and coated with a polyester or epoxy powder that is electrostatically fused to hot-dip galvanized structure.

2.2.I.5.b. Color to be selected by Owner from manufacturer's color chart.

## 2.3 SLIDE CONFIGURATIONS

- 2.3.A. Closed Flume Body Slide shall be a "O" flume design with an inside width of 32 inches and a minimum centerline length equal to or greater than 139 feet.
- 2.3.B. Open Flume Body Slide shall be a "U" flume design with an inside width of 36 inches and a minimum centerline length equal to or greater than 166 feet.
- 2.3.C. Combination Closed Flume/Open Flume Speed Slide shall be a combination "O" and "U" flume design with an inside width of 32 inches for "O" shaped flume and 36 inches for "U" shaped flume with a minimum centerline length equal to or greater than 58 feet.
- 2.3.D. Flumes shall be perpendicular to pool wall for at least ten feet from its end and shall not slope greater than one foot vertical in last ten feet.
- 2.3.E. Entry flume section shall terminate between six inches below and two inches above static water level unless otherwise noted and approved.
- 2.3.F. Tower height shall be equal to or greater than 24 feet 6 inches.
- 2.3.G. Stairways shall be 48 inches wide with handrails on both sides of stairway and down center of each stairway.
- 2.3.H. Slide tower systems shall include not less than fourteen (12) AquaBlue International proprietary radial Platform CONNECTORS™ or approved substitute.
- 2.3.I. Closed Flume Body Slide shall include twelve (10) AquaBlue International AquaFX Special Effects™ or approved substitute devices. These devices shall be installed by installers certified by waterslide manufacturer. Device's colors to match exterior flume colors.
- 2.3.J. Open Flume Body Slide shall include one (1) AquaBlue International AquaFX Special Effects™ Interactive or approved substitute device. This device shall be installed by installers certified by waterslide manufacturer.

## 2.4 SAFETY SIGNAGE

- 2.4.A. Waterslide manufacturer shall provide four (4) signs per slide tower listing safety rules and riding instructions.
- 2.4.B. Signs shall be durable, non-corrosive, rigid plastic or aluminum material suitable for exterior installation.
- 2.4.C. Signs shall include applicable warnings, height and weight restrictions, and depictions of proper rider positions and use of slides.
- 2.4.D. Signs shall be posted at bottom of slide stairway entrance and one sign shall be posted at top of slide platform.
- 2.4.E. Character Color: Contrasting color.

## 2.5 PLATFORM COVER

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- 2.5.A. Upper platform and slide entry section shall be protected from sun by a domed or pyramid shaped cover.
- 2.5.B. Structural Frame Members:
  - 2.5.B.1. Materials: Same as slide structure.
  - 2.5.B.2. Steel Protection: Same as slide structure.
- 2.5.C. Design Criteria:
  - 2.5.C.1. Live loads: 10 pounds per square foot.
  - 2.5.C.2. Wind design speed: 80 miles per hour.
  - 2.5.C.3. Snow load: 5 pounds per square foot.
- 2.5.D. Cable:
  - 2.5.D.1. Vinyl covered galvanized multi-strand cable.
  - 2.5.D.2. Size: As required to meet design criteria.
  - 2.5.D.3. Cable shall be secured with approved fittings and cable hardware as per manufacturer's specifications.
- 2.5.E. Bolts and Nuts:
  - 2.5.E.1. Bolts: Stainless steel per AS F593, Alloy Group 1 or 2.
  - 2.5.E.2. Bolt fittings shall include nylon washers for a watertight seal at joints.
  - 2.5.E.3. Nuts: Stainless steel per AS F594, Alloy Group 1 or 2.
- 2.5.F. Anchor Bolts: anchor bolts shall be hot-dip galvanized and shall meet requirements of AS A36.
- 2.5.G. Shade Fabric:
  - 2.5.G.1. Raw material: High density polyethylene with ultraviolet additives.
  - 2.5.G.2. Construction:
    - 2.5.G.2.a. A monofilament and tape construction giving a stable material.
    - 2.5.G.2.b. Ratchet knitted to ensure material will not unravel when cut.
  - 2.5.G.3. Characteristics, Solid Colors:
    - 2.5.G.3.a. Finish: Fabric is stentored.
    - 2.5.G.3.b. Tear Strength:
    - 2.5.G.3.c. Warp: 220.4622 pounds.
    - 2.5.G.3.d. Waft: 462.9707 pounds.
    - 2.5.G.3.e. Curst Strength: 37.7098 psia.
    - 2.5.G.3.f. Fabric Mass: 6.8784 ozm.
  - 2.5.G.4. Characteristics, Strip Colors:
    - 2.5.G.4.a. Finish: Fabric is stentored.
    - 2.5.G.4.b. Tear Strength:
    - 2.5.G.4.c. Warp: 182.9836 pounds.



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2.5.G.4.d. Waft: 401.2413 pounds.

2.5.G.4.e. Burst Strength: 33.0688 psia.

2.5.G.4.f. Fabric Mass: 7.0547 ozm.

2.5.G.5. Life Expectancy: A minimum of 8 years continuous exposure to sun.

2.5.G.6. Fading: Minimum fading after 5 years.

2.5.G.7. Fire Rating: When tested using procedures outlined in AS E84, flame spread index shall be 15 (Class I) and smoke developed index shall be 15.

2.5.G.8. Fabric shall be attached to pipe frame using brass grommets and rope as required.

2.5.G.9. Colors: Selected from manufacturer's full range of available colors.

2.5.G.10. Cotton of shade shall be 7' above entry tub.

## PART 3 EXECUTION

### 3.1 EXAMINATION

3.1.A. Prior to installation of work of this section, carefully inspect installed work of other trades and verify that such work is complete to point where this installation may properly commence.

3.1.B. Verify that fiberglass slides and structural support systems may be fabricated and erected in strict accordance with original design.

3.1.C. Discrepancies:

3.1.C.1. In event of discrepancy, immediately notify Architect/Engineer.

3.1.C.2. Do not proceed with fabrication or installation in areas of discrepancy until such discrepancies are fully resolved.

3.1.D. Inspect footings and foundations to ensure they meet performance and other criteria as prescribed by waterslide manufacturer and approved shop drawings. Report discrepancies to Architect. Beginning of waterslide construction means acceptance of footings and foundations.

### 3.2 ASSEMBLY

3.2.A. Assemble water slides and structural support systems in strict accordance with manufacturer's written instructions, approved shop drawings, and referenced standards.

3.2.B. Use of dissimilar metals in contact shall not be permitted.

### 3.3 INSTALLATION

3.3.A. Footings and foundations shall be installed in strict accordance with shop drawings and manufacturer's structural drawings and instructions.

3.3.B. Safety Signage: Install one sign at base of each tower and one at top of each tower.

### 3.4 WELDING

3.4.A. Welding shall be by Certified Welders, or inspected by Certified Welders in accordance to American Welding Society (AWS) specifications.

3.4.B. For details of joints, comply with requirements for AWS joints accepted without qualification tests.

3.4.C. Field welds will not be permitted.

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- 3.4.D. Use E-70XX series electrodes.
- 3.4.E. Follow applicable sections of AWS specifications.
- 3.4.F. Types of Welds (unless otherwise noted):
  - 3.4.F.1. Make fillet welds 1/4 inch minimum.
  - 3.4.F.2. Make butt welds full penetration welds.

### 3.5 ERECTION

- 3.5.A. Erect fiberglass waterslides and structural systems in strict accordance with shop drawings and pertinent regulations and standards.
- 3.5.B. Tolerance: Align structural steel straight, plumb and level with a tolerance of 1 in 500.
- 3.5.C. Fiberglass Joints:
  - 3.5.C.1. Flange-to-flange connections shall be made utilizing waterproof calking supplied by slide manufacturer and shall be joined in such a way as to provide for a safe and mat-less ride.
  - 3.5.C.2. Joints shall be aligned for a smooth riding surface and in no case shall downstream side of joint be above upstream side of joint.

### 3.6 CLEAN-UP

- 3.6.A. Upon completion of work of this section, immediately remove debris and rubbish occasioned by this work to approval of Owner and at no additional cost to Owner.
- 3.6.B. Clean slides and support system, ready for use.
- 3.6.C. Do not permit traffic over unprotected surfaces.

### 3.7 OWNER INSTRUCTION

- 3.7.A. Manufacturer's Field Representative shall train Owner's personnel in operation and maintenance of waterslide at job site during ride start-up and testing.

\*\*\*\*\*INDOOR POOL\*\*\*\*\*

**M PERIMETER RECIRCULATION SYSTEM**

Same as Section C Specification above except with 316L stainless steel material.

**N PADDOCK EVACUATOR™ SOURCE CAPTURE SYSTEM**

Paddock Evacuator™ system, as manufactured by Paddock Pool Equipment Company, Rock Hill, S C, has been integrally designed with SS Gutter system. Evacuator™ has been designed and sized by design team to collect and exhaust chloramines generated from swimming pool. Evacuator™ exhaust volume has been accounted for in overall Dehumidification system and is part of total air handling design.

General size and shape of Evacuator™ is shown on contract Drawings. Fabricate from 316L stainless steel. A Contractor shall provide and install Gutter/Evacuator™ system and provide connecting flanges at back of Evacuator™ plenum for continuation by a Mechanical Contractor.

**O CALIFORNIA STYLE GRAB RAILS**

Same as Section I.1 Specification above except with 316L stainless steel material.

**P 5" RECESSED STEPS**

Same as Section I.2 Specification above. (8) required.

**Q 3" RECESSED STEPS**

Paddock Model 9027 or approved substitute. (3) required.

**R RACING EQUIPMENT**

R.1 Starting Platform – Paddock “EZ Start Platform, Model 4909A” or approved substitute.

Starting Platforms shall be quickly and easily removable without using a wrench or unfastening anchor bolts. platform shall be rear mount, 21.25" wide x 20" long. frame shall be fabricated from satin finish, 1.9" O.D. x .120" wall, Type 316L stainless steel tubing. Flush with front edge of platform, there shall be a backstroke bar. backstroke bar shall be fabricated from satin finish, 1.05" O.D., Schedule 40, Type 316L stainless steel pipe. A mounting tread shall be positioned off side of platform. tread shall be fabricated from stainless steel, and have a slip resistant surface. At each side of platform, attached to legs, shall be a stainless steel plate on which lane number is displayed with a 4" numeral.

Top: top of starting platform shall be fabricated of extruded PVC sections and enclosed in a stainless steel frame. sections shall be white, 1" deep x 5/8" wide with a serrated top surface. space between sections shall be 1/8".

Anchor: Two Paddock Catalog No. 4814 anchors, with covers shall be supplied. anchor shall be fabricated of stainless steel and insert cover shall be stainless steel. anchors shall be provided as a unit on 19" centers, held rigidly together by two #4 rebars. (6) required

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- R.2 Competitor Racing Line for 25 Yards Model 200 330000 or approved substitute, (7) required
- R.3 Stainless Steel Recessed Cup Anchor for Racing Line Model 9026 or approved substitute, (14) required
- R.4 Stainless Steel Backstroke Marker Post w/Anchor & Cap Model 4905 or approved substitute, (4) required
- R.5 Backstroke Flags & Rope (50 ft) Model 4906 or approved substitute, (2) required
- R.6 ¾" Polyethylene Rope Model 4747 or approved substitute, (50') required
- R.7 ¾" Rope Hook Terminal Model 4774 or approved substitute, (2) required
- R.8 Recessed Stainless Steel Lifeline Cup Anchor Model 9026 or approved substitute, (2) required
- R.9 5" X 9" Lifeline Float Model 4778 or approved substitute, (8) required
- R.10 Colorado Timing System for a 6 lane competition pool – (6) 4 x 4 timing plates,
- R.11 12 x 6 wall plate, (1) 6 lane score board.

## **S STAINLESS STEEL HANDRAILS**

Stair handrails shall be of stainless steel construction and furnished with necessary anchors. Handrails shall be fabricated from 1.90" OD X.083" wall, Type 316L stainless steel tubing polished to a Paddock buff finish.

Custom handrails shall be Paddock Model 4718 or approved substitute (1) required, with dimensions shown on project Drawings. Paddock 4801 anchors with 4837 escutcheons shall be supplied with each handrail. Custom rails could require more than two anchors and escutcheons.

## **T MISCELLANEOUS EQUIPMENT**

- T.1 Main Paddock 24"x24"x24" Stainless Steel Entrapment Safe Main Drain Sump w/VGB Certified Flat Main Drain Cover, (2) required
- T.2 Surge Weirs, (8) required
- T.3 Jet Wash Fittings, (8) required
- T.4 8" Stainless Steel Gutter Perimeter Overflow Converter, (1) required
- T.5 6" Stainless Steel Return Converter, (1) required
- T.6 Commercial Hydrostatic Relief Valve, Model 8703-S or approved substitute, (2) required
- T.7 Automatic water level controller, (1) required

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- T.8 Static Water Level Pipe Wall Fitting Hayward SP-1019 or approved substitute, (1) required
- T.9 Automatic water level controller, (1) required
- T.10 Kersplash Clear Climbing Wall or approved substitute 4' wide x 17' tall sections (3) sections required
- T.11 3" X 4" PVC Pipe Fitting C.O. Stand Pipe, (1) required
- T.12 24" x 24" St. St. Valve Pit Access Hatch, Grout Filled, (1) required
- T.13 Stainless Steel 'T' Handle Valve Key, (1) required

END OF SECTION 131100